

# PRACTICE EXAM 3: HPM CERTIFICATION SIMULATION (240 QUESTIONS)

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1. A 77-year-old man with metastatic squamous cell carcinoma of the lung is brought to the emergency department with progressive confusion, lethargy, and constipation over seven days. His corrected serum calcium is 15.1 mg/dL. His PTHrP level is markedly elevated. This biochemical profile indicates which mechanism of malignant hypercalcemia?

- A. Osteolytic hypercalcemia from direct bone destruction by metastatic deposits
- B. 1,25-dihydroxyvitamin D-mediated calcium absorption seen in lymphoproliferative disorders
- C. Ectopic PTH secretion from a concurrent parathyroid adenoma unrelated to his cancer
- D. Humoral hypercalcemia of malignancy (HHM) from tumor secretion of PTHrP, the mechanism responsible for approximately 80% of malignant hypercalcemia cases

2. A 63-year-old woman with advanced pancreatic cancer has been enrolled in hospice for three weeks. She has good pain control on morphine SR 60 mg every 12 hours. She develops progressive jaundice with a bilirubin of 16 mg/dL and intractable pruritus that is significantly worse than her cancer pain. She has tried cholestyramine (intolerable), emollients (ineffective), and diphenhydramine (no relief). The palliative care physician considers biliary stenting to relieve the pruritus. Which of the following statements best guides this decision?

- A. Biliary stenting is categorically excluded from the hospice benefit regardless of clinical indication
- B. If biliary stenting would relieve the distressing pruritus — which is the patient's primary source of suffering — it may be appropriate as a symptom-relieving intervention consistent with comfort goals, weighing procedural risk and burden against expected benefit
- C. The patient must revoke hospice before any endoscopic procedure can be considered
- D. Pruritus is not a legitimate hospice-related symptom and does not warrant procedural intervention

3. A 54-year-old man with ALS has been on noninvasive ventilation (BiPAP) for eight months. His FVC has declined to 18% predicted. He is ventilator-dependent 22 hours per day. He communicates via eye-tracking technology and has full cognitive function. He tells his palliative care team that he wants the

BiPAP discontinued and to be allowed to die. His wife supports his decision. Before proceeding with withdrawal, which of the following clinical preparations is most critical?

- A. Obtaining a court order to authorize the withdrawal because BiPAP is legally classified differently from invasive ventilation
- B. Performing a spontaneous breathing trial to document that the patient cannot survive without the device
- C. Pre-medicating with opioids and benzodiazepines to ensure comfort during and after the withdrawal, as removal of ventilatory support in a patient with an FVC of 18% will result in progressive hypercapnia and death
- D. Transferring the patient to an ICU where emergency reintubation equipment is available

4. A hospice nurse is visiting a 71-year-old woman with end-stage heart failure at home. The patient's daughter asks, "Mom hasn't eaten in four days. Is she starving to death? Should I try harder to get her to eat?" The patient is drowsy and shows no interest in food. Which of the following responses most accurately addresses the daughter's concern?

- A. "Your mother's decreased appetite is a natural part of the dying process. Her body is no longer able to use food the way it once could. Forcing food could cause nausea, bloating, or aspiration. The small sips and ice chips you offer for comfort are enough. Your presence matters more than calories right now."
- B. "We should place a feeding tube to make sure she gets adequate nutrition during this critical period."
- C. "You should prepare high-protein shakes and make sure she finishes them to prevent starvation."
- D. "There is nothing more we can do — you should stop offering food and water entirely."

5. A 66-year-old man with advanced COPD on hospice is experiencing worsening dyspnea despite morphine 10 mg oral every 4 hours. His oxygen saturation is 93% on 2 L/min nasal cannula. He is anxious and using accessory muscles. The hospice nurse has administered his scheduled morphine dose, but he remains significantly dyspneic with prominent anxiety. Based on the pharmacologic management of dyspnea, which of the following is the most appropriate next intervention?

- A. Increase the supplemental oxygen to 6 L/min to address the oxygen level as the primary problem
- B. Administer nebulized albuterol 2.5 mg for presumed bronchospasm causing the acute worsening

C. Switch from morphine to hydromorphone because different opioids have different dyspnea efficacy profiles

D. Add lorazepam 0.5–1 mg sublingually to address the anxiety component of dyspnea that is not adequately controlled by the opioid alone

6. A 72-year-old woman with metastatic breast cancer has been on stable opioid therapy for three months. She develops new severe pain in her right hip. Imaging reveals a large lytic metastasis in the right proximal femur with 55% cortical destruction. She is currently ambulatory with a walker, has ECOG 2 performance status, and an expected survival of 5 months. In addition to optimizing her analgesic regimen, which intervention should be most strongly considered to prevent a potentially catastrophic complication?

A. Initiation of zoledronic acid for systemic bisphosphonate therapy to strengthen all bones

B. Strict bed rest and non-weight-bearing precautions until the lesion heals

C. Prophylactic surgical fixation of the proximal femur to prevent pathologic fracture, followed by palliative radiation to the site

D. Application of an external hip brace to provide structural support during ambulation

7. A 59-year-old man with metastatic renal cell carcinoma is on high-dose opioid therapy (oral morphine equivalent 650 mg/day) with persistent pain and significant side effects (sedation, confusion, myoclonus). His pain management specialist recommends an intrathecal pump. Using the standard 300:1 oral-to-intrathecal morphine conversion ratio, what is the approximate daily intrathecal morphine dose that would replace his current systemic therapy?

A. Approximately 2 mg intrathecal morphine per day, which would provide equivalent analgesia while reducing systemic side effects by 300-fold

B. Approximately 20 mg intrathecal morphine per day using a 30:1 conversion ratio

C. Approximately 65 mg intrathecal morphine per day using a 10:1 conversion ratio

D. Approximately 6.5 mg intrathecal morphine per day using a 100:1 conversion ratio

8. A palliative care physician is conducting a goals-of-care conversation with a 68-year-old woman with metastatic ovarian cancer. The physician has explored the patient's values and determined that she prioritizes comfort over life prolongation. Before making a treatment recommendation, the physician says, "Based on what you've told me about wanting to be comfortable and spend time with your family,

I would recommend focusing on comfort-focused care rather than pursuing additional chemotherapy, which would likely mean more time in the hospital." This statement exemplifies which component of shared decision-making?

- A. Paternalistic decision-making that removes the patient's right to choose
- B. A recommendation that integrates the patient's stated values with the medical reality — the defining feature of shared decision-making that distinguishes it from both paternalism and consumer-driven models
- C. Premature closure of the conversation before the patient has had time to consider her options
- D. An inappropriate disclosure of prognosis that will destroy the patient's hope

9. A 75-year-old man with advanced heart failure has been on hospice for six months. He has an ICD whose shock function was deactivated three months ago per his request. He develops syncope and falls, hitting his head. In the emergency department, telemetry shows runs of ventricular tachycardia. His family asks whether the ICD should be reactivated. The patient is alert, oriented, and reaffirms his wish to keep the ICD deactivated. Which of the following is the most appropriate course of action?

- A. Reactivate the ICD immediately because the syncope proves it is needed for survival
- B. Override the patient's wishes based on the family's request because the clinical situation has changed
- C. Obtain a psychiatric consultation to determine whether the patient has decision-making capacity before honoring his refusal of ICD reactivation
- D. Honor the patient's informed, capacitated decision to maintain ICD deactivation, explain the reasoning to the family, and manage his ventricular tachycardia symptomatically with rate or rhythm control if consistent with comfort goals

10. A 61-year-old woman with metastatic endometrial cancer develops new back pain that worsens when supine and improves when upright. Over 36 hours, she develops progressive bilateral leg weakness (now 3/5 strength), a sensory level at T6, and difficulty initiating urination. Dexamethasone 16 mg IV has been administered. MRI reveals a single epidural mass at T5 compressing the spinal cord. Her ECOG was 1 before symptom onset, and her expected survival is 9 months. Which definitive treatment offers the best chance of preserving neurologic function?

- A. Radiation therapy alone (30 Gy in 10 fractions) because it is effective for all cases of MSCC regardless of other factors

- B. High-dose corticosteroids as the sole definitive management with no additional treatment
- C. Surgical decompression followed by postoperative radiation therapy, which is superior to radiation alone in patients with single-level compression, good performance status, and expected survival exceeding three months
- D. Comfort measures only because her neurologic deficits have already progressed beyond recovery

11. A 70-year-old man with end-stage renal disease has been managed conservatively (without dialysis) for three months. His GFR is now 7 mL/min. He develops progressively worsening pruritus that significantly impairs his sleep and quality of life. Emollients have been ineffective. Based on the specific mechanism of uremic pruritus, which of the following first-line pharmacologic agents is most appropriate?

- A. Gabapentin at a renally adjusted dose, which has demonstrated efficacy for uremic pruritus in multiple randomized trials through its action on voltage-gated calcium channels in pruritoceptive neural pathways
- B. Diphenhydramine 50 mg at bedtime for histamine-mediated itch relief
- C. Cholestyramine 4 g three times daily for bile acid binding in the gastrointestinal tract
- D. Topical hydrocortisone 2.5% cream applied to all pruritic areas twice daily

12. A 56-year-old woman with advanced cervical cancer enrolled in hospice develops sudden, massive vaginal hemorrhage — bright red blood soaking through multiple pads and bed linens within minutes. She is on comfort measures only with a DNR order. She is conscious and appears terrified. Her husband is screaming for help. The hospice comfort kit is at the bedside. Which of the following is the single most important immediate intervention?

- A. Apply vaginal packing to achieve mechanical tamponade of the hemorrhage source
- B. Administer midazolam from the comfort kit (5–10 mg IM or IV) for rapid sedation to eliminate the patient's conscious terror during this catastrophic event
- C. Start a large-bore IV and administer normal saline for volume resuscitation
- D. Call 911 for emergency transport to the hospital for interventional radiology embolization

13. A 65-year-old man with advanced gastric cancer is on hospice. He is currently taking morphine SR 90 mg every 12 hours and morphine IR 30 mg every 3 hours PRN. He uses approximately 4

breakthrough doses per day. He can no longer swallow tablets. The hospice physician converts his regimen to a continuous subcutaneous morphine infusion. His total 24-hour oral morphine intake is 300 mg. Using the standard 3:1 oral-to-parenteral ratio, what is the correct continuous SC morphine infusion rate?

- A. 12.5 mg/hour SC morphine (300 mg/24 hours, assuming 1:1 conversion)
- B. 2.1 mg/hour SC morphine (50 mg/24 hours, using an incorrect 6:1 ratio)
- C. 6.25 mg/hour SC morphine (150 mg/24 hours, applying a 2:1 ratio instead of 3:1)
- D. Approximately 4.2 mg/hour SC morphine (100 mg SC per 24 hours, using the correct 3:1 oral-to-parenteral ratio)

14. A 74-year-old woman with metastatic colon cancer has been on a stable opioid regimen for six months. She develops new-onset nausea that worsens with head movement and position changes. Her nausea is not related to meals, is not accompanied by constipation, and does not correlate with her opioid dosing times. Based on the most likely mechanism, which antiemetic class is most appropriately targeted?

- A. A dopamine antagonist (haloperidol) targeting the chemoreceptor trigger zone
- B. A prokinetic agent (metoclopramide) for gastroparesis-related nausea
- C. An antihistamine or anticholinergic (meclizine or scopolamine) targeting vestibular-mediated nausea triggered by movement and position change
- D. A serotonin antagonist (ondansetron) for chemotherapy-induced delayed nausea

15. A 68-year-old man with metastatic prostate cancer on hospice has diffuse bone metastases. He is currently on oxycodone CR 80 mg every 12 hours with adequate baseline pain control. He reports episodes of sudden, severe pain in his right femur that occur with weight-bearing and last 15–30 minutes before resolving. Between episodes, his pain is well-controlled. This pattern is best described as which of the following?

- A. Incident (movement-evoked) breakthrough pain — pain that occurs predictably with a specific activity (weight-bearing) against a background of otherwise controlled baseline pain
- B. End-of-dose failure indicating that his sustained-release opioid is wearing off before the next dose
- C. Opioid-induced hyperalgesia causing paradoxical pain worsening with activity

D. Neuropathic pain from femoral nerve compression requiring adjuvant analgesic therapy

16. A 73-year-old woman with end-stage heart failure on hospice has been declining over two weeks. Today, the hospice nurse notes that the patient's feet and lower legs have developed purple-blue mottling that has been progressively extending toward the knees over the past 8 hours. Her radial pulse is thready and barely palpable. She is somnolent but rousable. Her urine output has been less than 100 mL in the past 12 hours. Based on these findings, which of the following clinical assessments is most accurate?

A. The patient is experiencing a deep vein thrombosis requiring anticoagulation therapy

B. These findings represent the progressive cardiovascular failure of active dying — mottling extending toward the knees, weakening peripheral pulses, decreasing urine output, and increasing somnolence indicate death is likely within hours to a few days

C. The mottling is caused by dependent positioning and will resolve with leg elevation

D. The decreased urine output indicates acute kidney injury requiring IV fluid resuscitation

17. A 55-year-old man with advanced sarcoma is on chronic opioid therapy with morphine SR 120 mg every 12 hours. He has been on this regimen for four months. He asks his palliative care physician, "Can I still drive? I need to get to my daughter's school play." Which of the following is the most accurate and appropriate response?

A. "Opioid therapy at any dose prohibits driving under all circumstances regardless of tolerance"

B. "You should switch to transdermal fentanyl because it is the only opioid compatible with driving"

C. "There is no legal restriction, so you can drive without any consideration of impairment"

D. "Patients on stable opioid doses who have developed tolerance to sedating effects and are not experiencing drowsiness, dizziness, or cognitive impairment may be able to drive safely. However, you should honestly assess your alertness and reaction time before getting behind the wheel."

18. A 62-year-old woman with metastatic pancreatic cancer is enrolled in hospice. She has been on opioids for pain management. She develops constipation despite taking senna 2 tablets twice daily and docusate 100 mg twice daily. She has not had a bowel movement in seven days. A rectal examination reveals no impaction. Her abdomen is distended but non-tender with hypoactive bowel sounds. Before escalating to a PAMORA, which of the following conventional laxative interventions should be optimized first?

A. Replace senna-docusate with fiber supplementation and increased water intake

- B. Switch from senna to a suppository-only regimen without oral laxatives
- C. Add an osmotic laxative (polyethylene glycol 17 g daily) and increase senna to 4 tablets twice daily — conventional laxatives should be fully optimized before advancing to PAMORAs
- D. Discontinue all laxatives and rely on dietary management alone

19. A hospice social worker is conducting a bereavement risk assessment for the family of a patient who died two days ago. The patient's 48-year-old wife was his primary caregiver. She has a history of generalized anxiety disorder, describes her relationship with her late husband as "very dependent — he was my everything," has no local family or friends (they moved to the area recently), and was not present when her husband died because she had stepped out for coffee. Based on established risk factors for complicated bereavement, she should be classified at which level of risk?

- A. High risk — she has multiple converging risk factors (psychiatric history, high dependency, limited social support, absence at death) warranting proactive, enhanced bereavement support with early counseling referral and close monitoring
- B. Low risk — her grief will resolve naturally with standard hospice bereavement follow-up
- C. Average risk — her profile is typical of most bereaved spouses and requires no special attention
- D. Unable to assess — bereavement risk cannot be determined within the first week after death

20. A 69-year-old man with advanced lung cancer has been on hospice for two months. His pain has been well-controlled on oxycodone CR 60 mg every 12 hours. He is also taking sertraline 100 mg daily for depression and dexamethasone 4 mg daily for appetite stimulation. He develops persistent hiccups that have lasted five days, interfering with sleep, eating, and quality of life. The most likely cause and the most appropriate initial management are which of the following?

- A. The hiccups are idiopathic and should be treated with chlorpromazine 25 mg three times daily
- B. Dexamethasone is a well-recognized cause of persistent hiccups — reduce the dose or switch corticosteroids, and initiate baclofen 5 mg three times daily for symptomatic treatment
- C. The oxycodone is causing the hiccups through mu receptor activation in the brainstem hiccup center
- D. Sertraline is triggering the hiccups through serotonergic stimulation of the phrenic nerve

21. A 58-year-old woman with advanced ovarian cancer and known peritoneal carcinomatosis develops malignant bowel obstruction. She is not a surgical candidate due to extensive disease. She is currently

vomiting approximately 600 mL per day despite octreotide 200 mcg SC three times daily and glycopyrrolate 0.4 mg SC every 6 hours. Which of the following medications is absolutely contraindicated in the management of her nausea given the complete bowel obstruction?

- A. Haloperidol 1 mg SC every 8 hours for chemoreceptor trigger zone-mediated nausea
- B. Ondansetron 4 mg IV every 8 hours for serotonin-mediated nausea
- C. Dexamethasone 8 mg IV daily to reduce peritumoral edema
- D. Metoclopramide 10 mg IV every 6 hours, which is absolutely contraindicated because its prokinetic effect increases peristalsis against a fixed obstruction, worsening pain and risking perforation

22. A 71-year-old man with advanced COPD is enrolled in hospice. His physician is discussing advance care planning with him. The patient has named his wife as his durable power of attorney for health care. The physician emphasizes that naming the surrogate alone is insufficient. Which of the following additional steps is most essential to ensure the DPAHC functions effectively?

- A. The patient must have a detailed conversation with his wife about his values, goals, fears, and specific treatment preferences so she can make informed decisions that reflect his wishes — a surrogate who does not know the patient's values cannot exercise substituted judgment
- B. The DPAHC must be notarized by an attorney to be legally valid in all states
- C. The patient must also complete a separate living will that addresses every possible medical scenario
- D. The wife must complete a medical decision-making training course before assuming the role

23. A 64-year-old woman with stage IV breast cancer has been declining on hospice. Over the past two days, her breathing has developed a pattern of gradually increasing depth followed by gradually decreasing depth, with pauses of 15–25 seconds between cycles. Her family is alarmed by the pauses. The hospice nurse should explain that this breathing pattern is which of the following?

- A. Kussmaul breathing from metabolic acidosis requiring bicarbonate supplementation
- B. An ominous sign of pneumothorax requiring emergency chest tube placement
- C. Cheyne-Stokes respiration — a normal part of the dying process caused by delayed brainstem chemoreceptor feedback, not indicating distress or suffocation
- D. Obstructive sleep apnea requiring continuous positive airway pressure

24. A 53-year-old man with advanced hepatocellular carcinoma (Child-Pugh C) requires opioid therapy for severe abdominal pain. His GFR is 70 mL/min (normal renal function). His bilirubin is 12 mg/dL and his INR is 2.6. The palliative care physician selects morphine at a reduced dose. Which pharmacokinetic property of severe hepatic impairment most directly explains why the oral morphine dose must be reduced?

- A. Morphine's active metabolite M6G accumulates due to impaired hepatic glucuronidation
- B. Reduced hepatic first-pass metabolism increases oral morphine bioavailability — normally about 30% of oral morphine reaches systemic circulation, but impaired first-pass metabolism allows a greater proportion to pass through, effectively increasing drug exposure at any given oral dose
- C. Morphine binds to elevated bilirubin, creating a toxic conjugate that causes additional liver damage
- D. Hepatic impairment converts morphine to meperidine through an alternative metabolic pathway

25. A 76-year-old man with advanced prostate cancer on hospice has diffuse bone metastases. He has been on morphine and an NSAID with adequate pain control. He develops new pain at a single site in his right proximal humerus that is not responding to his current regimen. Imaging reveals a lytic lesion at this site. His ECOG is 2 and his expected survival is approximately 4 months. Which of the following palliative radiation fractionation schedules has been shown in multiple randomized trials to provide pain relief equivalent to longer courses for this uncomplicated painful bone metastasis?

- A. 45 Gy delivered in 25 fractions over five weeks as the minimum effective dose
- B. 30 Gy delivered in 10 fractions as the only evidence-based palliative radiation regimen
- C. 20 Gy delivered in 5 fractions as the standard single-week course
- D. A single fraction of 8 Gy, which provides pain relief equivalent to multi-fraction regimens with significantly less treatment burden

26. A hospice aide caring for an 82-year-old woman with advanced dementia notices new bruising on both upper arms in a pattern consistent with finger grip marks. The patient lives with her son, who has a history of substance use. The aide reports this to the hospice nurse. Which of the following is the most appropriate immediate action?

- A. The hospice nurse should assess the patient for elder abuse — conduct a private assessment, look for additional signs of abuse or neglect, and if abuse is suspected, report to adult protective services as required by mandatory reporting laws

- B. Document the observation and reassess at the next routine visit in one week
- C. Confront the son directly and demand an explanation for the bruising
- D. Attribute the bruising to anticoagulant therapy and fragile skin without further investigation

27. A 60-year-old woman with advanced breast cancer is on opioid therapy. She has been taking morphine SR 60 mg every 12 hours for three months. She develops worsening confusion, visual hallucinations, and intermittent myoclonic jerks over 48 hours. Her creatinine has risen from 0.9 to 3.4 mg/dL. The most likely cause of her neurotoxicity is accumulation of which morphine metabolite?

- A. Morphine-3-glucuronide (M3G), which has potent analgesic activity that causes paradoxical sedation
- B. Norfentanyl, a metabolite produced through morphine's CYP3A4 metabolism
- C. Morphine-6-glucuronide (M6G), a potent active metabolite that is renally excreted and accumulates in renal impairment, causing prolonged sedation, confusion, hallucinations, myoclonus, and potentially respiratory depression
- D. Normeperidine, which accumulates when morphine is converted to meperidine in the liver

28. A 67-year-old man with end-stage liver disease on hospice has worsening hepatic encephalopathy with confusion and agitation. He is currently on lactulose, which provides partial improvement. His hospice physician considers adding rifaximin. The hospice pharmacy questions whether rifaximin is covered under the hospice benefit. Which of the following statements is most accurate?

- A. Rifaximin is classified as an antibiotic and all antibiotics are excluded from the hospice benefit
- B. Rifaximin used for symptom management of hepatic encephalopathy (reducing confusion and agitation that are distressing to the patient) is related to the terminal diagnosis and may be covered under the hospice per diem as a comfort-directed medication
- C. Rifaximin requires prior authorization from Medicare that takes 30 business days to process
- D. Only the hospice medical director can prescribe rifaximin, not the attending physician

29. A 55-year-old woman with advanced cervical cancer has been on opioid therapy. She is currently taking oxycodone CR 40 mg every 12 hours. She develops severe nausea that began two days ago. The nausea is constant, not related to meals or position changes, and has been gradually improving since onset. Based on the temporal pattern and her recent opioid dosing history, this nausea is most likely caused by which mechanism?

- A. Gastroparesis from opioid-mediated delayed gastric emptying requiring long-term prokinetic therapy
- B. Bowel obstruction from her cancer requiring octreotide and anticholinergic therapy
- C. An allergic reaction to oxycodone requiring immediate drug discontinuation and epinephrine
- D. Chemoreceptor trigger zone stimulation from the opioid — tolerance to this effect typically develops within 3–7 days, explaining the improving trajectory, and can be managed with a short course of haloperidol

30. A palliative care team is meeting with the family of an 80-year-old man with advanced dementia (FAST 7E) who has developed recurrent aspiration pneumonia. This is his fourth episode in 12 months. Each previous episode was treated with antibiotics, and he returned to baseline. His daughter asks whether antibiotics should be given again. The hospice physician's decision should be most strongly influenced by which of the following considerations?

- A. Whether the recurrent pattern of aspiration pneumonia despite repeated antibiotic treatment reflects the natural trajectory of advanced dementia — each course treats the infection but does not change the underlying aspiration risk — and whether continued treatment serves comfort goals or merely prolongs the dying process
- B. The specific antibiotic sensitivity pattern of the organism identified on sputum culture
- C. Whether the patient's white blood cell count exceeds a specific threshold mandating treatment
- D. The cost of the antibiotic relative to the remaining hospice per diem allocation

31. A 62-year-old man with advanced non-small cell lung cancer and brain metastases is on dexamethasone 8 mg daily for cerebral edema. He has been seizure-free. His oncologist recommends starting prophylactic anticonvulsant therapy. Based on the current evidence regarding seizure prophylaxis in patients with brain metastases who have NOT had seizures, which of the following is the most appropriate recommendation?

- A. Start phenytoin immediately because all patients with brain metastases require seizure prophylaxis
- B. Start levetiracetam prophylactically because it has the fewest drug interactions among anticonvulsants
- C. Prophylactic anticonvulsants are NOT recommended — randomized trials have not demonstrated a reduction in first-seizure incidence, and the medications carry significant side effect risks without proven benefit in seizure-naïve patients

D. Start valproic acid because dexamethasone increases seizure risk and requires concomitant anticonvulsant coverage

32. A 74-year-old man with metastatic lung cancer on hospice develops acute seizures at home. His wife calls the hospice nurse in a panic. The comfort kit is at the bedside. The nurse instructs the wife to position her husband on his side for airway protection. Which medication from the standard hospice comfort kit should the nurse direct the wife to administer for acute seizure management?

A. Morphine administered sublingually for its anticonvulsant properties at high doses

B. Lorazepam administered sublingually or rectally — a benzodiazepine that is first-line for acute seizure management and is available in the standard comfort kit

C. Haloperidol administered subcutaneously for its antidopaminergic seizure suppression activity

D. Glycopyrrolate administered subcutaneously to reduce the respiratory secretions during the seizure

33. A 69-year-old woman with advanced ovarian cancer has been on hospice for two months. She tells her hospice physician that she has been using cannabis edibles purchased from a licensed dispensary for nausea and sleep. She asks whether she needs to inform her other providers. Which of the following is the most clinically appropriate advice?

A. Cannabis use is a personal choice with no clinical relevance and does not need to be disclosed

B. Cannabis use is illegal in all settings and constitutes grounds for hospice discharge

C. She should disclose cannabis use only to her oncologist, not to other team members

D. She should inform all prescribers about her cannabis use so they can monitor for drug interactions with her opioids, benzodiazepines, and other medications, and adjust her care plan accordingly

34. A 78-year-old man with advanced Alzheimer's disease (FAST 7D) on hospice is residing in a nursing facility. He has been non-verbal for eight months. During a bathing visit, the CNA observes the patient grimacing, moaning, and pulling away when his right hip is moved. A PAINAD assessment yields a score of 7/10. He is currently on no analgesic medications. Which of the following is the most appropriate initial analgesic intervention?

A. Initiate a scheduled analgesic trial with acetaminophen 650 mg every 6 hours via the rectal or crushed oral route, and reassess PAINAD scores after 48–72 hours to determine whether pain was the cause of the behavioral distress

- B. Start morphine 10 mg subcutaneously every 4 hours as the initial agent given the high PAINAD score
- C. Obtain hip and pelvis X-rays before initiating any analgesic therapy to identify the pain source
- D. Refer to psychiatry for evaluation of the moaning as a behavioral symptom of dementia rather than pain

35. A 57-year-old woman with metastatic breast cancer is on tamoxifen. She develops moderate neuropathic pain in her feet from chemotherapy-induced peripheral neuropathy. Her palliative care physician considers adding an adjuvant analgesic. Which of the following agents should be AVOIDED because of a clinically significant interaction with tamoxifen?

- A. Gabapentin, which has no significant CYP interactions and is safe with tamoxifen
- B. Pregabalin, which is renally excreted and does not interact with tamoxifen metabolism
- C. Duloxetine, which inhibits CYP2D6 — the enzyme required to convert tamoxifen to its active metabolite endoxifen — potentially reducing tamoxifen's anticancer efficacy
- D. Nortriptyline at low doses, which has minimal CYP2D6 inhibition compared to other antidepressants

36. A 65-year-old man with advanced pancreatic cancer on hospice has been on morphine for pain. He is also taking dexamethasone and ondansetron. He develops acute onset of agitation, tremor, diaphoresis, bilateral lower extremity clonus, hyperreflexia, and a temperature of 38.8°C. His medication list is reviewed and reveals that he was recently started on linezolid for a wound infection. Which of the following diagnoses is most likely, and which feature most reliably distinguishes it from the primary differential diagnosis?

- A. Neuroleptic malignant syndrome from ondansetron, distinguished by the acute onset over hours
- B. Opioid toxicity from morphine accumulation, distinguished by the presence of miosis
- C. Sepsis from the wound infection, distinguished by the elevated white blood cell count
- D. Serotonin syndrome from the combination of morphine (which has serotonin reuptake inhibition activity) and linezolid (an MAOI), distinguished from neuroleptic malignant syndrome by the presence of clonus

37. A hospice nurse is caring for a 72-year-old man with end-stage COPD who is actively dying at home. He has developed loud, gurgling breathing (death rattle) over the past three hours. His wife is distressed by the sound. The nurse administers glycopyrrolate 0.2 mg SC. Three hours later, the gurgling

persists. Which of the following explains why the death rattle has not resolved and guides the nurse's communication with the family?

- A. Glycopyrrolate is ineffective for the death rattle and should be replaced with deep tracheal suctioning
- B. Anticholinergic agents reduce new secretion production but do not dry existing accumulated secretions — the noise from previously pooled secretions will persist until they are reabsorbed or drain by gravity, and the family should be reassured that the patient is most likely unaware of the sound
- C. The glycopyrrolate dose was insufficient and should be tripled immediately
- D. The death rattle indicates aspiration pneumonia requiring antibiotic treatment

38. A 63-year-old woman with advanced lung cancer is enrolled in hospice. She has been stable for three months with good symptom control. She asks her hospice physician, "My oncologist mentioned a new clinical trial for my type of cancer. Can I join the trial and stay on hospice?" Which of the following most accurately describes her options?

- A. She may revoke hospice at any time to pursue the clinical trial, and she may re-elect hospice in the future if she chooses — hospice revocation is voluntary and reversible
- B. Clinical trial participation is compatible with hospice enrollment and no changes are needed
- C. She cannot access clinical trials once she has signed a hospice election form under any circumstances
- D. She must obtain written approval from her hospice medical director before she can participate in any clinical trial

39. A 70-year-old man with advanced heart failure is being transitioned from the hospital to home hospice. His hospital regimen includes IV morphine 2 mg every 4 hours (total 12 mg IV per 24 hours), IV furosemide 40 mg daily, oral lisinopril 10 mg daily, atorvastatin 40 mg daily, and IV pantoprazole 40 mg daily. His prognosis is estimated at 4–6 weeks. Which of the following medication management principles should guide the transition?

- A. Continue all medications at current doses and routes because changes during transitions increase error risk
- B. Discontinue all medications immediately upon hospice enrollment because they are all disease-directed therapies

C. Convert IV medications to appropriate oral or SC routes, continue medications that provide symptom benefit (morphine for dyspnea, furosemide for fluid overload, lisinopril for heart failure symptoms), de-prescribe preventive medications with no short-term benefit (atorvastatin), and ensure adequate opioid supply for home use

D. Transfer medication management entirely to the patient's primary care physician

40. A 56-year-old woman with advanced melanoma on pembrolizumab develops new onset of fatigue, constipation, cold intolerance, and weight gain. Her TSH is 55 mIU/L and her free T4 is undetectable. This presentation is most consistent with which immunotherapy-related complication?

A. Immune-related hepatitis causing thyroid hormone metabolism disruption

B. Immune-related colitis with malabsorption of thyroid medication

C. Paraneoplastic syndrome causing ectopic thyroid-stimulating hormone production

D. Immune-related thyroiditis progressing to hypothyroidism — managed with levothyroxine replacement, which typically does not require immunotherapy discontinuation

41. A 74-year-old woman with metastatic colorectal cancer develops new severe right upper quadrant pain. CT reveals rapidly enlarging hepatic metastases with significant hepatomegaly. Her pain is deep, constant, and described as a "pressure" sensation across her entire right upper abdomen. She is on opioids with partial relief. The palliative care physician wants to add a non-opioid medication that specifically targets the mechanism of her hepatic capsule pain. Which is the most appropriate addition?

A. Gabapentin 300 mg three times daily for modulation of neuropathic pain pathways

B. Dexamethasone 8 mg daily to reduce hepatic inflammation and peritumoral edema, directly decreasing the capsular stretch causing her pain

C. An NSAID to block prostaglandin-mediated inflammation at the hepatic tumor sites

D. Acetaminophen 1000 mg every 6 hours for general analgesic augmentation

42. A 68-year-old man with stage IV prostate cancer and a large lytic metastasis in his right femur falls at home and develops sudden severe right thigh pain with an audible "crack." He cannot bear weight. X-ray confirms a pathologic fracture of the proximal femoral shaft. His ECOG performance status before the fracture was 2, and his expected survival is 5 months. Which of the following is the most appropriate management?

- A. Surgical fixation (intramedullary nailing) followed by palliative radiation to the fracture site — appropriate given his adequate performance status and months of expected survival
- B. Conservative management with bed rest and increased opioid doses as definitive treatment
- C. Palliative radiation to the fracture site as the sole intervention without surgical stabilization
- D. Amputation of the right leg to eliminate the pain source and prevent complications

43. A palliative care team is conducting a family meeting for a 72-year-old man with end-stage heart failure in the ICU. He is intubated, on vasopressors, and has been unresponsive for 72 hours. His advance directive states: "I do not want to be kept alive on machines if there is no reasonable hope of meaningful recovery." His wife and three adult children are present. Before delivering the medical update, the physician asks, "Can you tell me your understanding of what has been happening with your father's health?" This question serves which primary communication purpose?

- A. Testing the family's medical knowledge to determine their level of education
- B. Shifting responsibility for the clinical update to the family so the physician does not have to deliver bad news
- C. Assessing the family's current understanding before providing new information — revealing gaps, misconceptions, and a starting point for the medical update, consistent with the "Perception" step of SPIKES
- D. Determining whether the family is intellectually capable of participating in medical decisions

44. A 59-year-old man with advanced gastric cancer has been on hospice for six weeks. He develops new-onset ascites from a combination of peritoneal carcinomatosis and portal hypertension. An indwelling peritoneal catheter is placed. During a home drainage session, his wife drains 3 liters of ascitic fluid over 25 minutes. Shortly after, the patient becomes dizzy, nauseated, and his blood pressure drops to 80/50 mmHg. What is the most likely cause and the most important preventive counseling for future drainages?

- A. The patient has developed peritonitis from the drainage and requires emergency antibiotics
- B. Air embolism from the drainage procedure requires immediate position change to left lateral decubitus
- C. The indwelling catheter has eroded into a mesenteric vessel causing intra-abdominal hemorrhage

D. Rapid large-volume drainage caused hemodynamic instability from vasovagal response and intravascular fluid shift — future drainages should be performed more slowly (over 60–90 minutes) with the patient in a reclined position

45. A 73-year-old man with advanced lung cancer has been on hospice for four months. He tells his hospice nurse, "I want to go to my grandson's wedding next month. Is that possible, or do I have to stay at home?" Which core principle of hospice and palliative care is most relevant to the nurse's response?

A. Hospice patients must remain in their registered place of residence at all times for continuous nursing access

B. Living fully — pursuing meaningful activities, maintaining relationships, and participating in important life events — is entirely consistent with hospice enrollment, and the team should work to make the trip possible by planning medication schedules, arranging equipment, and coordinating care at the destination

C. Travel is only permitted with prior written authorization from the hospice medical director

D. The patient should be discouraged from traveling because it creates unnecessary medical risk

46. A 67-year-old woman with advanced ovarian cancer is on hospice. She develops a symptomatic malignant pleural effusion causing moderate dyspnea. She has had three thoracenteses in the past month with rapid reaccumulation. Her ECOG is 2 and her expected survival is 3 months. Which long-term management strategy would best reduce procedure burden while maintaining effective symptom control?

A. Placement of an indwelling pleural catheter (IPC) for intermittent home drainage, eliminating repeated clinic-based procedures and allowing home management by the patient or her family

B. Initiation of high-dose furosemide to prevent fluid reaccumulation through renal excretion

C. Continuation of serial thoracenteses every 7–10 days as the standard management approach

D. Referral for surgical pleurodesis via video-assisted thoracoscopic surgery

47. A 60-year-old man with end-stage renal disease has been managed conservatively (without dialysis) for four months. His GFR is 6 mL/min. He has been declining gradually with increasing fatigue, nausea, and drowsiness over the past two weeks. His family asks what to expect in the coming days. Based on the typical clinical course of conservative renal management, which of the following is the most accurate description of the expected trajectory?

- A. Sudden cardiac arrest from hyperkalemia will occur without any warning signs
- B. Rapid development of uncontrollable seizures as the primary terminal event
- C. Progressive somnolence from uremia leading to obtundation and coma over days to weeks, with death typically from hyperkalemia or uremic encephalopathy — the process is generally manageable with palliative care and is often described as relatively peaceful
- D. Immediate need for emergency dialysis to prevent imminent death within 24 hours

48. A hospice physician is reviewing a patient's death certificate completed by a covering physician. The cause of death is listed as: Part I, Line a: "Cardiac arrest." The hospice physician recognizes that this is problematic because of which of the following?

- A. "Cardiac arrest" is only appropriate when the death was witnessed and an ECG confirmed asystole
- B. "Cardiac arrest" is the correct cause of death for all patients who die from heart disease
- C. "Cardiac arrest" is acceptable as long as "respiratory failure" is listed on Line b
- D. "Cardiac arrest" is the mechanism of death common to virtually all deaths and does not specify the disease that caused the death — the certificate should list the actual disease process (e.g., "respiratory failure" due to "metastatic lung cancer")

49. A 71-year-old woman with advanced breast cancer on hospice has been taking morphine SR 60 mg every 12 hours with good pain control. She also takes senna-docusate daily. After four months of stable dosing, she asks whether she can discontinue the laxative because she has not had any constipation problems. Which of the following is the most appropriate advice?

- A. She may discontinue the laxative on a trial basis and restart if constipation recurs
- B. Continue the laxative regimen because tolerance to opioid-induced constipation does NOT develop — it is the only major opioid side effect for which tolerance does not occur, and constipation will return if the laxative is stopped
- C. Switch from senna-docusate to dietary fiber as a less aggressive maintenance approach
- D. Discontinue the senna but continue the docusate as a standalone laxative

50. A 64-year-old man with advanced esophageal cancer has complete dysphagia. He can no longer swallow any medications. His current regimen includes morphine SR 90 mg every 12 hours (total 180 mg oral morphine per day). The hospice team plans to convert to a continuous subcutaneous hydromorphone infusion. Step 1: Convert 180 mg oral morphine to parenteral morphine using the 3:1

ratio = 60 mg parenteral morphine per day. Step 2: Convert parenteral morphine to parenteral hydromorphone using the equianalgesic table (morphine 10 mg IV = hydromorphone 1.5 mg IV):  $60/10 \times 1.5 = 9$  mg parenteral hydromorphone per day. Step 3: Apply 25% cross-tolerance reduction:  $9 \times 0.75 = 6.75$  mg SC hydromorphone per day. What is the correct hourly infusion rate?

- A. Approximately 0.28 mg/hour SC hydromorphone (6.75 mg divided by 24 hours)
- B. Approximately 0.56 mg/hour SC hydromorphone (13.5 mg divided by 24 hours)
- C. Approximately 1.12 mg/hour SC hydromorphone (27 mg divided by 24 hours)
- D. Approximately 0.14 mg/hour SC hydromorphone (3.375 mg divided by 24 hours)

51. A 75-year-old man with advanced heart failure on hospice has an implantable cardioverter-defibrillator. The hospice physician discusses ICD management with the patient, who agrees to deactivate the shock function but wants to maintain pacing. Which of the following statements about this request is most accurate?

- A. Shock and pacing functions cannot be independently controlled in modern ICDs
- B. Deactivating shocks automatically disables all pacing functions in the device
- C. The shock function and pacing function can be independently programmed — deactivating shocks while maintaining pacing is a standard, routinely performed approach
- D. Maintaining pacing is incompatible with hospice enrollment under Medicare regulations

52. A 58-year-old woman with advanced cervical cancer is experiencing severe, refractory pelvic pain that has not responded to high-dose systemic opioids (oral morphine equivalent 500 mg/day) or adjuvant analgesics. She is also experiencing significant opioid side effects including sedation and confusion. Which of the following interventional pain management approaches would most directly address her pelvic visceral pain while dramatically reducing her systemic opioid burden?

- A. Celiac plexus block targeting the T12-L1 sympathetic ganglia for upper abdominal pain
- B. Lumbar epidural steroid injection for radicular symptoms
- C. Ganglion impar block targeting the sacrococcygeal ganglion for perineal pain only
- D. Superior hypogastric plexus block, which targets the sympathetic plexus transmitting visceral afferent pain from pelvic organs including the uterus, cervix, bladder, and rectum

53. A palliative care consultation is requested for a 70-year-old man with end-stage liver disease who has been refusing all food and fluids for four days. He is cognitively intact and states clearly, "I am done. I do not want anything more." His daughter demands that the team place an IV for fluids and a feeding tube. The patient reiterates his refusal. The daughter threatens to sue. Which of the following principles most directly supports the clinical team's obligation in this situation?

- A. The team should comply with the daughter's demands to avoid litigation
- B. The patient's informed, capacitated refusal of nutrition and hydration must be honored — a competent patient has the absolute right to refuse any medical treatment, including life-sustaining treatment, and the family cannot override this right regardless of legal threats
- C. The team should place the IV and feeding tube as a temporary measure while seeking ethics consultation
- D. The team should contact the hospital attorney before making any clinical decision

54. A 66-year-old woman with advanced pancreatic cancer has been on hospice for eight weeks. She develops new onset of bilateral lower extremity weakness progressing over 72 hours, back pain that worsens when supine, and urinary retention. Dexamethasone 16 mg IV is administered immediately. MRI reveals epidural cord compression at T8 from a single metastatic deposit. Her pre-event ECOG was 1 and her expected survival is 7 months. The most critical factor that will determine her neurologic outcome is which of the following?

- A. Her neurologic status at the time definitive treatment is initiated — patients who are still ambulatory have greater than 80% chance of remaining ambulatory, while those who are paraplegic have less than 10% chance of regaining function
- B. The specific chemotherapy regimen she received prior to hospice enrollment
- C. Her age, which is the primary determinant of neurologic recovery from cord compression
- D. Whether the epidural mass enhances with gadolinium contrast on MRI imaging

55. A 72-year-old man with advanced COPD on hospice at home develops increasing dyspnea. He is on morphine 10 mg oral every 4 hours. His oxygen saturation is 87% on 2 L/min nasal cannula. He is clearly hypoxemic. The hospice nurse increases his morphine and adds lorazepam for anxiety. The family asks whether the oxygen flow rate should be increased. Based on current evidence, which of the following is the most appropriate oxygen management recommendation?

- A. Discontinue oxygen entirely because supplemental oxygen provides no benefit for dyspnea under any circumstances
- B. Increase only if the patient requests more oxygen, regardless of saturation level
- C. This patient IS hypoxemic (SpO<sub>2</sub> 87%, below the 90% threshold) — unlike non-hypoxemic patients where oxygen provides no benefit over room air, patients with documented hypoxemia may benefit from supplemental oxygen for dyspnea relief, and the flow rate should be increased
- D. Replace oxygen with heliox for all patients with COPD-related dyspnea

56. A 63-year-old woman with metastatic breast cancer on hospice develops a new pathologic fracture of her right proximal humerus after minimal trauma. She has severe pain and cannot use her right arm. Her ECOG before the fracture was 2, and her expected survival is 4 months. Which of the following management approaches is most appropriate?

- A. Conservative management with a sling, ice, and increased opioids as definitive treatment
- B. Palliative radiation to the fracture site as the sole intervention without surgical consideration
- C. Emergency amputation of the right arm at the shoulder to eliminate the pain source
- D. Surgical fixation (intramedullary nailing or plate fixation) followed by palliative radiation — appropriate given her adequate performance status and months of expected survival, this approach restores arm function and prevents the complications of a non-healing pathologic fracture

57. A 70-year-old man with advanced pancreatic cancer has been on hospice for three months. His pain has been well-managed. He develops new confusion, nausea, constipation, and polyuria over one week. His family attributes the symptoms to disease progression. His corrected serum calcium is 14.6 mg/dL. Which of the following is the most clinically important implication of this finding?

- A. The hypercalcemia is incidental and unrelated to his worsening symptoms
- B. The hypercalcemia explains his multiple worsening symptoms (confusion, nausea, constipation, polyuria) simultaneously and represents a potentially reversible cause of suffering — treating it (if consistent with goals) could improve multiple symptom domains
- C. Hypercalcemia treatment is always contraindicated in hospice patients regardless of goals
- D. The calcium level is only mildly elevated and will correct spontaneously without intervention

58. A 65-year-old woman with advanced ovarian cancer on hospice asks her hospice nurse, "Am I allowed to travel to visit my sister in another state? I want to see her one more time." Which of the following is the most appropriate response?

- A. "Yes — you can travel while on hospice. We can coordinate your care, ensure you have enough medications, arrange for hospice services at your destination if needed, and plan for contingencies. Let's make this happen."
- B. "Hospice patients cannot leave their registered residence because nursing visits must continue on schedule"
- C. "You would need to revoke hospice before traveling across state lines"
- D. "Travel is not recommended for hospice patients because of the medical risks involved"

59. A 71-year-old man with metastatic renal cell carcinoma on hospice is taking morphine for pain. His GFR has declined from 45 to 12 mL/min over the past month. He develops progressive somnolence, confusion, and myoclonic jerks. The palliative care physician suspects opioid neurotoxicity from accumulation of morphine's active metabolite M6G. Which opioid rotation would be most appropriate?

- A. Rotate to codeine, which has minimal renal concerns because it is primarily hepatically metabolized
- B. Increase the morphine dose because his symptoms represent worsening pain, not toxicity
- C. Rotate to fentanyl, which has no active metabolites that accumulate in renal impairment — it is metabolized by CYP3A4 to inactive norfentanyl, making it the safest opioid choice in renal failure
- D. Rotate to meperidine, which is specifically designed for use in patients with renal impairment

60. A hospice program's quality improvement committee is reviewing data showing that 38% of patients die within 7 days of hospice enrollment, and the median length of stay is 13 days. Which of the following quality concerns does this pattern most strongly indicate?

- A. The hospice program is enrolling patients too early and providing unnecessary services
- B. The hospice program has an excessively high death rate suggesting suboptimal symptom management
- C. The hospice program's referral patterns are within normal parameters and no improvement is needed

D. Late referrals to hospice are denying patients and families the full benefit of hospice services — including weeks to months of symptom management, psychosocial support, spiritual care, caregiver preparation, and advance care planning

61. A 56-year-old woman with advanced sarcoma has been on chronic opioid therapy with oxycodone CR 80 mg every 12 hours. She develops new severe pain in her right thigh at the tumor site that has both aching (somatic) and burning, shooting (neuropathic) components. Her current opioid provides partial relief of the aching component but minimal effect on the burning, shooting component. Which analgesic strategy best addresses the dual mechanism of her pain?

- A. Increase oxycodone alone because higher opioid doses will address both pain mechanisms equally
- B. Combine adequate opioid dosing for the somatic component with an adjuvant analgesic (gabapentin or duloxetine) for the neuropathic component — neither agent alone optimally addresses both mechanisms
- C. Discontinue opioids entirely and use gabapentin monotherapy for both pain types
- D. Replace oxycodone with topical lidocaine as the sole intervention for mixed mechanism pain

62. A palliative care physician is meeting with a 45-year-old woman with metastatic ovarian cancer who has just been told her chemotherapy has failed. She is crying and says, "I can't believe this. What am I going to tell my children?" The physician feels the urge to discuss treatment options. Based on communication best practices, what should the physician do first?

- A. Respond to the emotion before providing any clinical information — acknowledge her pain, validate her feelings about her children, and allow silence before transitioning to any discussion of next steps
- B. Immediately outline alternative treatment options to redirect her from the emotional distress
- C. Ask her directly whether she wants to talk about emotions or treatment options
- D. Contact the social worker to handle the emotional aspects of the conversation

63. A 73-year-old woman with advanced heart failure on hospice has been managed with furosemide 40 mg daily for dyspnea from fluid overload. Over the past five days, her dyspnea has worsened significantly. Examination reveals new bilateral crackles to the mid-lung fields, JVD, and 4+ pitting edema to the thighs. Her weight has increased 5 kg in one week. Which of the following medication adjustments is most appropriate?

- A. Discontinue furosemide because diuretics are disease-directed therapies incompatible with hospice
- B. Maintain the current furosemide dose and add morphine as the sole treatment for her worsening dyspnea
- C. Increase furosemide to 80 mg daily and/or add metolazone for diuretic synergy — addressing the volume overload that is directly causing her dyspnea is a symptom-directed intervention consistent with comfort goals
- D. Replace furosemide with hydrochlorothiazide for better oral bioavailability

64. A 60-year-old man with advanced hepatocellular carcinoma has been on hospice for two months. He is taking lactulose for hepatic encephalopathy, which provides significant symptom relief (reducing his confusion and agitation). The hospice pharmacy contacts the physician questioning whether lactulose should be continued because it is a "disease-directed" therapy for liver disease. Which of the following responses by the physician is most accurate?

- A. Lactulose should be discontinued because all disease-modifying therapies must be stopped upon hospice enrollment
- B. Lactulose is not covered under the hospice benefit because it is classified as a gastrointestinal medication
- C. The pharmacy's concern is valid, and lactulose should be tapered over two weeks to avoid rebound encephalopathy
- D. Lactulose directly relieves distressing symptoms (confusion, agitation from encephalopathy) and its continuation is consistent with comfort-focused goals — medications that provide symptom relief related to the terminal diagnosis are covered under the hospice per diem regardless of whether they also treat the underlying disease

65. A 68-year-old man with advanced lung cancer on hospice has been experiencing progressive fatigue that significantly limits his daily activities. His hemoglobin is 10.8 g/dL, thyroid function is normal, and depression screening is negative. Non-pharmacologic measures (activity pacing, energy conservation) have been implemented with partial benefit. He asks about medication options for his fatigue. Which of the following has the strongest evidence base for cancer-related fatigue?

- A. Modafinil 200 mg daily for wakefulness promotion and alertness improvement
- B. Methylphenidate 5 mg in the morning and at noon, a CNS stimulant with rapid onset that has the strongest evidence among pharmacologic agents for cancer-related fatigue
- C. Erythropoiesis-stimulating agent to correct his mild anemia as the probable cause of fatigue

D. Dexamethasone 8 mg daily for long-term sustained energy improvement

66. A 75-year-old woman with advanced dementia (FAST 7F) on hospice develops a fever of 39.4°C and tachypnea. This is her fifth episode of aspiration pneumonia in the past 14 months. Each prior episode was treated with antibiotics. Her daughter, who is her health care proxy, asks the hospice team for guidance. The hospice physician's discussion with the daughter should focus primarily on which of the following?

A. Whether the pattern of recurrent aspiration pneumonia despite repeated treatment reflects the natural trajectory of her mother's disease, and whether continued treatment serves comfort goals or prolongs the dying process — balanced against whether the current infection is causing distressing symptoms that antibiotics could relieve

B. The specific antibiotic choice based on sputum culture sensitivity results

C. Whether Medicare will cover the cost of another antibiotic course during this hospice enrollment period

D. Whether the fever meets a specific temperature threshold that mandates treatment regardless of goals

67. A 52-year-old man with metastatic melanoma receiving nivolumab develops acute onset of severe weakness, hypotension (blood pressure 72/40 mmHg), nausea, and hypoglycemia. Morning cortisol is undetectable. This presentation is most consistent with which immune-related adverse event, and what is the most appropriate urgent treatment?

A. Immune-related hepatitis requiring high-dose corticosteroids and permanent immunotherapy discontinuation

B. Immune-related colitis with dehydration requiring aggressive IV fluid resuscitation alone

C. Immune-related pneumonitis with severe functional limitation requiring bronchodilators

D. Immune-related hypophysitis or adrenalitis causing secondary or primary adrenal insufficiency — requiring urgent IV hydrocortisone 100 mg for hemodynamic stabilization and hormone replacement

68. A hospice bereavement coordinator contacts the 52-year-old widow of a patient who died 15 months ago. The widow reports persistent, intense yearning for her husband that dominates her daily life. She describes feeling as though "part of me died with him," cannot engage in any activities she previously enjoyed, avoids all places and people that remind her of him, and has been unable to return to work. She

meets DSM-5-TR criteria for prolonged grief disorder. Which psychotherapeutic intervention has the strongest evidence base for this condition?

- A. Standard cognitive behavioral therapy for depression (CBT-D) focused on behavioral activation
- B. Group-based supportive therapy as the primary treatment modality
- C. Complicated Grief Treatment (CGT) — a 16-session manualized therapy combining elements of interpersonal psychotherapy, CBT, and motivational interviewing, with response rates of 50–70% in randomized trials
- D. Psychoanalytic psychotherapy exploring the unconscious dynamics of the attachment relationship

69. A 74-year-old man with end-stage heart failure and a biventricular pacemaker-defibrillator is actively dying on hospice. The ICD shock function was deactivated two weeks ago. His daughter asks whether a magnet needs to remain on the device. The device representative reprogrammed the ICD at the time of deactivation. Which of the following is the most accurate response?

- A. The magnet must remain in place permanently because reprogramming only partially disables the shock function
- B. The magnet can be removed — the device representative permanently reprogrammed the ICD to disable shock delivery, making the magnet unnecessary. The magnet provides only temporary suspension during the interval before permanent reprogramming.
- C. The magnet should remain in place as a safety backup even after reprogramming
- D. The magnet must remain until the device is surgically explanted after death

70. A 63-year-old woman with advanced pancreatic cancer on hospice is experiencing severe pain. She is currently taking oral morphine equivalent 400 mg per day with persistent pain and intolerable side effects (sedation, myoclonus). The pain management team recommends rotation to methadone. Before initiating methadone, which of the following unique pharmacologic properties requires specific monitoring?

- A. QTc prolongation with risk of torsades de pointes — methadone is the only commonly used opioid that carries this specific cardiac risk, requiring ECG monitoring at baseline and during dose titration
- B. Direct hepatotoxicity requiring weekly liver function testing for the duration of therapy
- C. Severe thrombocytopenia requiring complete blood count monitoring every 48 hours

D. Corneal deposits requiring ophthalmologic examination before and during treatment

71. A palliative care physician receives a consultation for a 76-year-old man who has been in the ICU for three weeks after a massive stroke. He has no brainstem reflexes, no spontaneous respiratory effort, and an apnea test confirms absence of respiratory drive when PaCO<sub>2</sub> exceeds 60 mmHg. Confirmatory cerebral blood flow study shows no intracranial circulation. His family states, "He's still alive — his heart is beating and his chest is moving." Which of the following is the most accurate clinical and legal interpretation of this situation?

- A. The patient is in a persistent vegetative state and treatment decisions should follow the substituted judgment standard
- B. The patient requires further observation for at least one week before any determination can be made
- C. The family has the legal right to refuse brain death determination and maintain the ventilator indefinitely in all jurisdictions
- D. The patient meets criteria for brain death (death by neurologic criteria) and is legally dead under the Uniform Determination of Death Act — the family's difficulty accepting this requires compassionate communication and may warrant brief accommodation, but the patient is deceased

72. A 65-year-old woman with metastatic breast cancer has been on opioid therapy. She develops severe nausea that worsens significantly with position changes and head movement but is unrelated to meals or medication timing. Based on this positional pattern, her nausea is most likely mediated through which pathway and receptor system?

- A. The chemoreceptor trigger zone, mediated by dopamine D<sub>2</sub> and serotonin 5-HT<sub>3</sub> receptors
- B. The gastrointestinal tract, mediated by serotonin 5-HT<sub>3</sub> and muscarinic receptors
- C. The vestibular system, mediated by histamine H<sub>1</sub> and muscarinic receptors — nausea worsened by movement and position change is the hallmark of vestibular-mediated emesis
- D. Higher cortical centers, mediated by GABA receptors responding to anticipatory triggers

73. A 60-year-old man with end-stage COPD on hospice has been managed with morphine for dyspnea. He also takes gabapentin 600 mg TID for neuropathy. Over the past week, he has developed increasing confusion, unsteadiness, and sedation. His creatinine has risen from 1.0 to 2.9 mg/dL. Which of the following medications requires the most urgent dose adjustment given his declining renal function?

- A. Morphine, which should be rotated to fentanyl to prevent M6G accumulation
- B. Gabapentin, which is renally excreted without hepatic metabolism and accumulates in renal impairment, causing sedation, confusion, and ataxia at standard doses
- C. Both medications require simultaneous adjustment with equal urgency
- D. Neither medication requires adjustment because renal impairment does not affect their pharmacokinetics

74. A 55-year-old woman with advanced lung cancer is on hospice. She tells her hospice chaplain, "I've been a good person my whole life. Why is God punishing me with this disease? I feel completely abandoned." The chaplain recognizes this as spiritual distress. Which of the following is the most appropriate response?

- A. Explore her feelings of abandonment without attempting to "fix" them, validate the genuineness of her spiritual struggle, facilitate her engagement with her own faith tradition, and offer pastoral presence — connecting her with her own clergy if she desires
- B. Provide theological reassurance that God does not punish people with illness and that her thinking is incorrect
- C. Prescribe an anxiolytic to reduce the distress she is experiencing from her spiritual crisis
- D. Refer her to psychiatry because spiritual distress of this intensity indicates major depression

75. A 72-year-old man with advanced prostate cancer on hospice develops acute onset of confusion, lethargy, nausea, and polyuria. His corrected calcium is 15.8 mg/dL. His family asks whether treatment is possible. The hospice physician's decision about whether to treat the hypercalcemia should be guided primarily by which of the following?

- A. The specific calcium level, because all levels above 14 mg/dL mandate aggressive treatment regardless of goals
- B. Whether Medicare will reimburse the treatment under the hospice per diem
- C. The cost of zoledronic acid relative to the hospice program's budget
- D. The patient's goals of care — if he wants symptom relief, treating the hypercalcemia may significantly improve his confusion, nausea, and polyuria; if his goals are comfort-only and treatment would merely prolong dying without improving quality of life, supportive symptom management alone may be more appropriate

76. A hospice interdisciplinary team is developing a care plan for a newly enrolled 78-year-old man with advanced heart failure. Medicare Conditions of Participation require that the IDT include, at minimum, which of the following core team members?

- A. A physician, a registered nurse, a physical therapist, and a pharmacist
- B. A physician, a nurse practitioner, an occupational therapist, and a dietitian
- C. A physician, a registered nurse, a social worker, and a pastoral or other counselor
- D. A physician, a registered nurse, and a chaplain only — no other disciplines are required

77. A 64-year-old man with advanced colon cancer is enrolled in hospice. He has been taking warfarin for atrial fibrillation. His prognosis is estimated at 3 weeks. He has no history of stroke or TIA. The hospice team reviews his anticoagulation. Which of the following is the most appropriate approach to his warfarin therapy?

- A. Continue warfarin at the current dose because stroke prevention requires lifelong anticoagulation
- B. Discontinue warfarin — the absolute risk reduction from anticoagulation over a 3-week period is negligible, while the bleeding risk continues and may be increasing as his condition declines
- C. Switch to a direct oral anticoagulant for easier monitoring during the hospice enrollment
- D. Increase the warfarin dose to achieve an INR of 3.5 for enhanced stroke protection

78. A 59-year-old man with advanced gastric cancer is on hospice. He is experiencing persistent nausea that has been partially responsive to haloperidol. His nausea is worst after meals and is accompanied by early satiety, bloating, and a sensation that food "sits in my stomach for hours." Based on the most likely mechanism, which antiemetic should be added to address the gastric motility component?

- A. Metoclopramide, which combines antiemetic activity (D2 antagonism at the CTZ) with prokinetic activity (5-HT4 agonism improving gastric emptying) — the ideal agent for gastroparesis-mediated nausea when bowel obstruction has been excluded
- B. Ondansetron for additional serotonin blockade at the CTZ
- C. Scopolamine for anticholinergic suppression of gastric acid secretion
- D. Lorazepam for the anticipatory component of his postprandial nausea

79. A 68-year-old woman with advanced breast cancer has been on stable opioid therapy for five months. Her pain is well-controlled. She has been taking senna 2 tablets at bedtime and docusate 100 mg twice daily since starting opioids. She has been having regular bowel movements. She asks, "I feel like the laxative is working fine. Can I stop the senna and just take the docusate?" Which of the following is the most appropriate advice?

- A. She can safely stop the senna because five months of treatment has trained her bowels to function normally
- B. Switching to docusate alone is inadvisable because docusate monotherapy has been shown to be no more effective than placebo for constipation
- C. She should stop both the senna and the docusate because long-term laxative use causes colonic dependency
- D. She should replace both medications with psyllium fiber for a more natural approach to bowel regulation

80. A 71-year-old man with metastatic lung cancer has a painful bone metastasis in his left proximal femur. His oncologist recommends palliative radiation. Based on the strongest evidence for uncomplicated painful bone metastases, which fractionation schedule provides equivalent pain relief to longer courses while minimizing treatment burden?

- A. 40 Gy in 20 fractions over 4 weeks for maximum tumor response
- B. 30 Gy in 10 fractions as the only evidence-based palliative radiation dose
- C. A single fraction of 8 Gy, which multiple randomized trials have shown provides pain relief equivalent to multi-fraction regimens for uncomplicated bone metastases
- D. 50 Gy in 25 fractions for definitive treatment intent

81. A 66-year-old man with advanced heart failure on hospice has a mechanical aortic valve. He has been on warfarin for 15 years. His prognosis is estimated at 6–8 weeks. The hospice team reviews his anticoagulation. Unlike patients anticoagulated for atrial fibrillation alone, why does this patient's anticoagulation warrant continuation even with a short prognosis?

- A. Anticoagulation for a mechanical heart valve carries the highest risk of discontinuation among all indications — mechanical valves without anticoagulation have significant and immediate risk of valve

thrombosis and systemic embolization, making the short-term risk of stopping warfarin much higher than for atrial fibrillation alone

B. Warfarin provides direct symptom relief for his heart failure symptoms and is classified as a comfort medication

C. Medicare requires continuation of warfarin for all patients with mechanical valves regardless of hospice status

D. Stopping warfarin in patients with mechanical valves causes immediate valve failure requiring emergency surgery

82. A 74-year-old woman with end-stage COPD is dying at home on hospice. She has Cheyne-Stokes breathing with apneic pauses lasting 20–30 seconds. Her daughter is at the bedside and asks, "Should I call 911 during the long pauses?" Which of the following is the most appropriate response?

A. "Yes, call 911 during any pause longer than 20 seconds because this indicates a cardiac emergency"

B. "The irregular breathing with pauses is called Cheyne-Stokes respiration — it is a normal, expected part of the dying process. The pauses do not mean your mother is suffocating or in distress. You do not need to call 911. We will be here with you and will make sure she remains comfortable."

C. "The pauses indicate pneumonia and we should start antibiotics immediately"

D. "We should transfer her to the hospital for cardiac monitoring to evaluate the pauses"

83. A 59-year-old woman with advanced melanoma on ipilimumab develops severe, watery diarrhea (12 stools/day) with abdominal cramping and bloody stool. Stool studies are negative for *C. difficile* and other pathogens. This began one week after her last immunotherapy infusion. The most appropriate immediate treatment is which of the following?

A. Loperamide 4 mg initially then 2 mg after each loose stool as the sole intervention

B. Empiric metronidazole for presumed undetected *C. difficile* infection despite negative testing

C. Octreotide 150 mcg SC three times daily for secretory diarrhea control

D. High-dose systemic corticosteroids (prednisone 1–2 mg/kg/day) for immune-related colitis, with immunotherapy held and consideration of infliximab if steroid-refractory

84. A palliative care physician is conducting a family meeting for a 69-year-old man with end-stage heart failure in the ICU. The patient's adult son becomes angry and says, "You're giving up on my

father! If you won't keep fighting, we'll find someone who will." Based on communication best practices, which of the following is the most effective initial response?

- A. "I understand your frustration. Let me present the medical data so you can see why continued treatment is futile."
- B. "You're welcome to seek a second opinion. I'll arrange the transfer paperwork."
- C. "I can hear how frightened and angry you are right now, and that makes complete sense — you love your father. Can you tell me more about what worries you most? I want to make sure we understand each other."
- D. "We are not giving up. We have simply reached the limits of what medicine can do."

85. A 72-year-old man with advanced prostate cancer on hospice has been comfortable on his opioid regimen. He develops acute-onset back pain, bilateral leg weakness, and urinary retention over 48 hours. Dexamethasone 16 mg IV is administered immediately. MRI shows a single-level epidural metastasis at T10 with cord compression. His ECOG was 2 before this event, and his expected survival is 5 months. Based on the Patchell trial, which treatment approach offers the best neurologic outcome?

- A. Surgical decompression followed by postoperative radiation therapy — demonstrated superior to radiation alone for single-level compression in patients with good performance status and expected survival exceeding three months
- B. Radiation therapy alone as the universal standard of care for all MSCC regardless of patient factors
- C. High-dose corticosteroids as the sole definitive management with reassessment in two weeks
- D. Comfort measures only because neurologic function cannot be preserved once deficits have appeared

86. A hospice nurse visits a 77-year-old man with end-stage heart failure who is actively dying at home. She notes the patient has developed mottling of both lower extremities extending to the mid-thighs, his radial pulse is no longer palpable, his urine output has been zero for the past 10 hours, and his breathing has become irregular with mandibular movement. Based on these signs, the nurse should communicate to the family which of the following?

- A. The patient needs to be transferred to the hospital for evaluation of acute kidney injury and shock
- B. These signs indicate that death is likely approaching within hours to a few days — the convergence of mottling above the knees, loss of peripheral pulses, anuria, and mandibular breathing represents the progressive organ system failure of active dying

- C. The signs are concerning but inconclusive, and the nurse should reassess in 24 hours
- D. The patient is experiencing a medication reaction and all drugs should be discontinued

87. A 61-year-old woman with advanced pancreatic cancer has been on opioid therapy for pain and is enrolled in hospice. She develops new onset of severe right upper quadrant pain from rapidly enlarging hepatic metastases. Her palliative care physician starts dexamethasone 8 mg daily to reduce hepatic capsule distension. After five days, her liver pain has significantly improved. However, she develops severe, intractable hiccups. Which of the following is the most appropriate management?

- A. Discontinue the dexamethasone entirely and accept the return of hepatic capsule pain
- B. Increase the dexamethasone dose because higher doses may paradoxically suppress the hiccup reflex
- C. Add chlorpromazine 50 mg three times daily as the sole intervention without addressing the dexamethasone
- D. Reduce the dexamethasone dose to the lowest effective amount for pain relief, or switch to an alternative corticosteroid, and initiate baclofen 5 mg three times daily for hiccup-specific treatment

88. A 70-year-old man with end-stage heart failure on hospice develops acute pulmonary edema with severe dyspnea. He is on morphine SR 15 mg every 12 hours for baseline dyspnea and furosemide 40 mg daily. His current examination reveals bilateral crackles, JVD, an S3 gallop, and oxygen saturation of 82%. He is on comfort measures with a DNR order. Which of the following represents the most appropriate immediate management?

- A. Continue current medications unchanged and observe for spontaneous improvement
- B. Administer morphine bolus for dyspnea, increase furosemide to 80 mg IV for the acute volume overload, and reposition upright — addressing both the symptom (dyspnea with morphine) and its treatable cause (pulmonary congestion with diuresis) is consistent with comfort goals
- C. Administer morphine bolus for dyspnea but do not adjust the furosemide because diuretics are disease-directed therapies
- D. Transfer to the hospital for BiPAP and IV diuretic therapy despite the comfort measures plan

89. A hospice social worker is meeting with the 14-year-old daughter of a dying patient. The daughter has been acting out at school, refusing to visit her mother at home, and has told friends "my mom is fine — nothing is wrong." Based on developmental understanding of adolescent grief, this behavior most likely represents which of the following?

- A. Anticipatory grief presenting as denial, avoidance, and behavioral acting out — common grief responses in adolescents who understand the gravity of the situation but lack mature coping strategies and may resist showing vulnerability
- B. A conduct disorder unrelated to her mother's illness requiring disciplinary intervention
- C. Evidence that the daughter has been inadequately informed about her mother's condition
- D. Normal adolescent rebellion that has no connection to the family's medical situation

90. A 65-year-old woman with advanced lung cancer on hospice has been declining. During a routine visit, the hospice nurse notes that the patient is significantly more jaundiced than at the last visit (bilirubin rose from 3 to 11 mg/dL), and she has become more confused over the past three days. Her current medications include morphine SR 30 mg every 12 hours and dexamethasone 2 mg daily. Given her worsening hepatic function, which medication adjustment is most critical?

- A. Increase the dexamethasone to compensate for decreased efficacy due to hepatic metabolism
- B. Reduce the morphine dose because worsening hepatic function reduces first-pass metabolism and increases oral morphine bioavailability, effectively increasing drug exposure at the same prescribed dose
- C. Switch from morphine to meperidine because meperidine is safer in liver failure
- D. Discontinue all medications immediately because hepatic failure makes all drugs unpredictable

91. A 58-year-old woman with advanced cervical cancer on hospice has been having pain well-controlled on oxycodone. She develops progressive renal impairment (GFR declining from 50 to 14 mL/min). She develops new confusion and myoclonus. The palliative care physician suspects opioid metabolite accumulation. The most appropriate opioid rotation strategy is which of the following?

- A. Continue oxycodone at the current dose with more frequent monitoring
- B. Rotate to morphine because it has fewer active metabolites than oxycodone
- C. Rotate to codeine because it requires only hepatic metabolism without renal concerns
- D. Rotate to fentanyl, which has no active metabolites that accumulate in renal failure and is the preferred opioid in the setting of significant renal impairment

92. A 70-year-old man with advanced gastric cancer is dying at home on hospice. His wife reports that over the past 24 hours, he has become increasingly somnolent, is no longer eating or drinking, his breathing has become irregular, and his feet have turned a mottled purple color. She asks, "How much

longer does he have?" Based on the convergence of these end-of-life signs, which of the following is the most accurate prognostic estimate?

- A. These signs suggest he may survive several more weeks if his nutrition improves
- B. The symptoms are too vague to provide any prognostic guidance
- C. The convergence of somnolence, cessation of oral intake, irregular breathing, and mottling indicates that death is likely within hours to a few days
- D. The mottling is caused by cold ambient temperature and will resolve with warming

93. A hospice physician is reviewing the care of a 73-year-old woman with advanced breast cancer. She was previously on warfarin for atrial fibrillation. Her prognosis is estimated at 2 weeks. She has no history of stroke. The most appropriate anticoagulation management at this point is which of the following?

- A. Discontinue warfarin — the absolute risk reduction from anticoagulation over 2 weeks is negligible while bleeding risk continues, and the burden of monitoring (INR checks, dietary restrictions) is not justified by the minimal expected benefit
- B. Continue warfarin at the current therapeutic dose because atrial fibrillation stroke prevention requires lifelong therapy
- C. Switch to enoxaparin for easier management without INR monitoring
- D. Increase warfarin to achieve a higher INR for enhanced stroke protection during the terminal phase

94. A 66-year-old man with advanced pancreatic cancer and a recently placed celiac plexus block for pain management reports that his abdominal pain has been dramatically reduced — from 8/10 to 2/10. He was previously on morphine SR 120 mg every 12 hours. After the successful block, he becomes increasingly sedated and his respiratory rate drops to 10 breaths per minute. This clinical scenario illustrates which important principle about the relationship between pain and opioid respiratory depression?

- A. Celiac plexus blocks always cause respiratory depression as a direct procedural complication
- B. Pain is a potent respiratory stimulant that counteracts opioid respiratory depression — when a successful pain intervention eliminates the pain, the respiratory stimulant effect is removed, unmasking the respiratory-depressant effect of the current opioid dose, which is now relatively excessive

- C. The respiratory depression is caused by a medication error during the celiac plexus block procedure
- D. The patient has developed an allergic reaction to the neurolytic agent used during the block

95. A 54-year-old man with advanced sarcoma is enrolled in hospice. He has been on high-dose opioids (oral morphine equivalent 700 mg/day) with persistent severe pain and intolerable side effects. His pain management specialist recommends an intrathecal drug delivery system. Using the standard 300:1 oral-to-intrathecal morphine conversion, what is the approximate daily intrathecal morphine dose?

- A. 70 mg intrathecal morphine per day using a 10:1 ratio
- B. 23 mg intrathecal morphine per day using a 30:1 ratio
- C. 7 mg intrathecal morphine per day using a 100:1 ratio
- D. Approximately 2.3 mg intrathecal morphine per day using the correct 300:1 ratio

96. A palliative care team is caring for a 72-year-old man with advanced lung cancer. He asks his hospice physician, "I know I'm dying, but I don't want my family to suffer because of me. What happens to them after I'm gone?" Which of the following represents the most comprehensive and accurate response about hospice bereavement services?

- A. "Unfortunately, our services end when you pass away. Your family will need to find their own support."
- B. "We can provide a referral to a grief counselor on the day of your death for your family to follow up on."
- C. "Our hospice program is required to provide bereavement support to your family for at least 13 months after your death — this includes regular check-in contacts, memorial events, support groups, and referrals for counseling if needed. You can also help prepare your family now through conversations about your wishes and by creating lasting memories."
- D. "Bereavement support is only available if your family specifically requests it and pays out of pocket."

97. A 68-year-old woman with end-stage COPD on hospice develops acute worsening of dyspnea. She is on morphine 10 mg PO every 4 hours and 2 L/min O<sub>2</sub> by nasal cannula. Her O<sub>2</sub> saturation is 78%. She is tachypneic, anxious, and using accessory muscles. She is on comfort measures with a DNR order. Which of the following represents the most appropriate immediate intervention sequence?

- A. Administer a morphine bolus for dyspnea, add midazolam for the anxiety component, increase supplemental oxygen (she IS hypoxemic — below 90% threshold), position upright, and direct a fan to her face
- B. Call 911 for emergency transport and intubation because her oxygen is critically low
- C. Withhold opioids because of concern that respiratory depression will worsen her already compromised breathing
- D. Administer supplemental oxygen only and observe without additional pharmacologic intervention

98. A 60-year-old man with advanced colon cancer is on hospice. His wife calls the hospice nurse to report that he has been "jerking in his sleep" — sudden involuntary muscle twitches affecting his arms and legs. He is on morphine SR 90 mg every 12 hours. His last creatinine (checked one week ago) was normal. The most likely diagnosis and appropriate initial management is which of the following?

- A. New-onset epilepsy requiring emergency anticonvulsant loading and neuroimaging
- B. Opioid-induced myoclonus — a dose-dependent neurotoxic effect managed by opioid dose reduction if pain allows, opioid rotation (particularly to fentanyl), and/or symptomatic treatment with clonazepam
- C. Restless leg syndrome requiring dopamine agonist therapy with pramipexole
- D. Serotonin syndrome requiring discontinuation of all serotonergic medications

99. A 75-year-old woman with metastatic ovarian cancer has malignant ascites from peritoneal carcinomatosis (NOT portal hypertension). She has tried diuretics without benefit. The hospice team considers paracentesis. After removing 5 liters of ascitic fluid, the patient asks whether she needs albumin replacement. Which of the following is the most accurate response regarding albumin replacement for malignant ascites?

- A. Albumin replacement is always required after any large-volume paracentesis regardless of the mechanism of the ascites
- B. Albumin replacement is required for all paracenteses removing more than 2 liters
- C. Albumin replacement is mandatory for all hospice patients undergoing paracentesis
- D. Albumin replacement is standard practice for large-volume paracentesis in cirrhotic (portal hypertensive) ascites but is NOT routinely required for malignant ascites from peritoneal carcinomatosis, where the mechanism of fluid accumulation is different

100. A palliative care physician has been caring for a 61-year-old woman with advanced pancreatic cancer for four months. After her death, the physician notices she feels tearful when reviewing the patient's chart and has been thinking about this patient more than others. She wonders whether this response is problematic. This reaction is most accurately described as which of the following?

- A. Professional burnout requiring a leave of absence from clinical responsibilities
- B. A boundary violation suggesting an inappropriate personal relationship with the patient
- C. Normal clinician grief — a natural, healthy response to the loss of a patient with whom the physician had a meaningful therapeutic relationship, reflecting emotional engagement rather than pathology
- D. Compassion fatigue indicating that the physician has exceeded her emotional capacity for end-of-life work

101. A 69-year-old man with advanced non-small cell lung cancer is being transitioned from IV hydromorphone 0.5 mg/hour (12 mg IV per 24 hours) in the hospital to oral hydromorphone for home hospice. Using the equianalgesic table (parenteral hydromorphone 1.5 mg = oral hydromorphone 7.5 mg), what is the correct total 24-hour oral hydromorphone dose?

- A. 60 mg oral hydromorphone per day (12 mg IV  $\times$  5 = 60 mg oral, using the correct 5:1 parenteral-to-oral ratio for hydromorphone)
- B. 12 mg oral hydromorphone per day (same number as the IV dose — an incorrect 1:1 conversion)
- C. 36 mg oral hydromorphone per day (using an incorrect 3:1 ratio)
- D. 90 mg oral hydromorphone per day (using an incorrect 7.5:1 ratio)

102. A 72-year-old woman with advanced breast cancer on hospice has been declining. Over the past day, she has had a dramatic improvement — she is alert, engaging in conversation, asking for her favorite meal, and expressing love and gratitude to her family. Her vital signs remain abnormal and her overall clinical trajectory has not changed. This phenomenon is best described as which of the following?

- A. Evidence of clinical recovery requiring hospital transfer for re-evaluation
- B. A terminal rally (terminal lucidity) — a transient, poorly understood period of improvement that may occur hours to days before death, not indicating recovery but rather a temporary phenomenon often followed by rapid decline

- C. A medication interaction causing temporary stimulation of her central nervous system
- D. Resolution of a concurrent infection that was suppressing her alertness

103. A 58-year-old man with advanced hepatocellular carcinoma is on hospice. He has been taking morphine for abdominal pain. His hepatic function has deteriorated significantly (bilirubin rising from 6 to 19 mg/dL over two weeks). He becomes more somnolent despite no change in his prescribed morphine dose. The most likely pharmacokinetic explanation for his worsening sedation is which of the following?

- A. Morphine is being converted to a hepatotoxic metabolite that causes additional liver damage in a vicious cycle
- B. The somnolence is entirely due to hepatic encephalopathy and is unrelated to his morphine therapy
- C. His liver disease has reduced morphine clearance through impaired hepatic metabolism
- D. Worsening hepatic function has reduced first-pass metabolism of oral morphine, increasing its systemic bioavailability — more of the oral dose now reaches the systemic circulation, effectively increasing his drug exposure at the same prescribed dose

104. A hospice nurse visits a 79-year-old woman with end-stage COPD at home. The patient's husband, who is her sole caregiver, appears exhausted — he has lost weight, has dark circles under his eyes, and admits he has not seen his own doctor in over a year despite having diabetes and hypertension. He says, "I'll be fine — just focus on her." Which of the following is the most appropriate hospice response?

- A. Document the observation and address it only at the next scheduled team meeting in one week
- B. Focus exclusively on the patient because the husband is not the hospice patient
- C. Gently express concern for the husband's well-being, normalize the difficulty of caregiving, explore whether respite care or additional support services would help, and ensure the IDT addresses caregiver health — because caregiver collapse directly threatens the patient's care plan
- D. Arrange for immediate mandatory hospitalization of the husband for medical evaluation

105. A 66-year-old man with advanced colon cancer on hospice has constipation refractory to senna 4 tablets BID and polyethylene glycol 17 g daily. He has not had a bowel movement in 9 days. Rectal exam shows no impaction. His abdomen is distended but soft without signs of obstruction. He is on morphine for pain. Which of the following is the most appropriate next step?

- A. Start a peripherally acting mu opioid receptor antagonist (PAMORA) such as methylnaltrexone 12 mg SC, which blocks mu receptors in the GI tract without crossing the blood-brain barrier — this is indicated for opioid-induced constipation refractory to conventional laxative therapy
- B. Discontinue all opioids and switch to a non-opioid pain regimen to eliminate the constipation
- C. Add docusate as the missing component of his laxative regimen
- D. Administer a sodium phosphate enema and increase dietary fiber intake

106. A palliative care physician is caring for a 55-year-old woman with advanced breast cancer who expresses a desire for hastened death. She says, "I just want this to be over. Can you give me something to end it?" She lives in a state where MAID is not legal. Which of the following represents the most appropriate clinical response?

- A. Report the patient to psychiatric services for acute suicidal ideation with plan
- B. Explore what is driving her request (uncontrolled pain, loss of control, depression, existential suffering), assess for major depression, optimize symptom management, and honestly inform her that MAID is not legal in her state while continuing to address the underlying suffering
- C. Provide a prescription for a lethal dose because respecting autonomy requires fulfilling all patient requests
- D. Refuse to discuss the topic and redirect the conversation to symptom management only

107. A 70-year-old man with end-stage liver disease on hospice has been taking morphine for pain. He develops worsening hepatic encephalopathy. His physician is considering adding lactulose. A team member questions whether lactulose conflicts with the opioid regimen. Which of the following statements about this combination is most accurate?

- A. Lactulose is contraindicated in patients taking opioids because of the risk of severe diarrhea and electrolyte imbalance
- B. Opioids must be discontinued before lactulose can be initiated
- C. Lactulose and opioids have no clinical interaction and can be used together freely without monitoring
- D. Lactulose serves a dual purpose in this patient — treating hepatic encephalopathy by reducing ammonia absorption AND functioning as an osmotic laxative that may help counteract opioid-induced constipation

108. A 63-year-old woman with advanced ovarian cancer is on hospice. She develops a new, painful, fungating chest wall mass that has ulcerated through the skin. The wound produces copious exudate and severe malodor from anaerobic bacterial colonization. Which topical agent is most effective for controlling the malodor?

- A. Hydrogen peroxide 3% solution applied to the wound surface with each dressing change
- B. Silver sulfadiazine cream applied daily for broad-spectrum antimicrobial coverage
- C. Topical metronidazole 0.75% gel applied directly to the wound surface — targeting the anaerobic bacteria responsible for the characteristic malodor
- D. Povidone-iodine solution used as a wound irrigant twice daily for antisepsis

109. A 74-year-old man with end-stage heart failure is dying at home on hospice. His wife asks the hospice nurse, "Can he still hear us? He hasn't responded in hours." Based on current understanding of sensory function during the dying process, which of the following is the most accurate and helpful response?

- A. "We believe hearing may be the last sense preserved during the dying process. While we can't know with certainty, I encourage you to keep talking to him, holding his hand, and saying whatever you need to say. Assume he can hear you."
- B. "No — once a patient becomes unresponsive, all sensory function has ceased and he cannot hear anything"
- C. "He can definitely hear every word you say, so be very careful about what you discuss in his presence"
- D. "His hearing has been replaced by visual hallucinations, and speaking to him will cause confusion"

110. A 56-year-old woman with advanced cervical cancer on hospice develops bilateral ureteral obstruction from retroperitoneal tumor progression. Her creatinine has risen from 1.0 to 5.2 mg/dL over 10 days. She is becoming confused and nauseated from uremia. Her oncologist proposes bilateral nephrostomy tubes. The palliative care team is consulted. The decision about nephrostomy placement should be guided primarily by which of the following?

- A. The technical feasibility of the procedure as determined by interventional radiology

- B. The patient's values, goals, and understanding of what nephrostomy tubes would and would not accomplish — they would relieve the obstruction and extend life but would not treat the cancer, and she would need to live with nephrostomy tubes for whatever time remains
- C. Whether the patient's insurance will cover the procedure under the hospice benefit
- D. The patient's creatinine level, because levels above 5 mg/dL mandate intervention regardless of goals

111. A 68-year-old man with advanced prostate cancer on hospice develops new-onset seizures from previously undiagnosed brain metastases. He is started on an anticonvulsant for maintenance therapy. Given his polypharmacy (opioids, antiemetics, corticosteroids, laxatives), which anticonvulsant is preferred because of its minimal drug interactions, lack of hepatic metabolism, and availability in IV and liquid formulations?

- A. Phenytoin, which has well-established efficacy and a long history of clinical use
- B. Carbamazepine, which provides additional benefit for neuropathic pain alongside seizure control
- C. Valproic acid, which has broad-spectrum anticonvulsant activity against multiple seizure types
- D. Levetiracetam, which has no significant hepatic metabolism, minimal drug interactions, and is available in IV and liquid formulations — critical advantages in palliative care patients on multiple medications

112. A palliative care physician is completing the death certificate for a 75-year-old man who died of respiratory failure from advanced Parkinson's disease. The correct Part I cause-of-death sequence is which of the following?

- A. Line a: "Cardiac arrest" — Line b: "Parkinson's disease"
- B. Line a: "Old age" — Line b: "General debility"
- C. Line a: "Aspiration pneumonia" — Line b: "Dysphagia" — Line c: "Parkinson's disease"
- D. Line a: "Natural causes" — Line b: "Neurodegenerative disease"

113. A 72-year-old woman with advanced dementia (FAST 7D) is on hospice. She has been non-verbal for eight months. During a care visit, the CNA notes that she has a PAINAD score of 6/10 during morning care. She is currently on no analgesic medications. Following the evidence-based approach for pain management in advanced dementia, which of the following is the most appropriate initial step?

- A. Start a scheduled acetaminophen trial (650 mg every 6 hours via rectal or crushed oral route) and reassess PAINAD scores after 48–72 hours — improvement supports pain as the cause of behavioral distress
- B. Begin morphine 5 mg SC every 4 hours as initial therapy given the moderately high PAINAD score
- C. Obtain comprehensive imaging (X-rays, CT scan) to identify the specific source of pain before starting any treatment
- D. Refer to psychiatry for evaluation of the behavioral symptoms as non-pain manifestations of advanced dementia

114. A 65-year-old man with advanced gastric cancer enrolled in hospice is on morphine for pain management. He develops persistent hiccups for four days. His current medications include morphine SR, dexamethasone 4 mg daily (started three weeks ago), ondansetron, and senna-docusate. Which medication is the most likely cause of his hiccups?

- A. Morphine, which causes hiccups through direct phrenic nerve stimulation
- B. Dexamethasone, which is a well-recognized cause of persistent hiccups with a clear temporal relationship to his symptom onset
- C. Ondansetron, which triggers hiccups through 5-HT<sub>3</sub> receptor blockade in the medulla
- D. Senna, which causes hiccups through stimulation of the enteric nervous system

115. A hospice program is reviewing its quality metrics. The data show that the program's volunteer utilization is at 3% of total patient care hours. Under Medicare Conditions of Participation, which of the following is the regulatory implication of this finding?

- A. The program is within normal parameters because there is no minimum volunteer requirement
- B. The program is exceeding the volunteer requirement, which is only 1% of total care hours
- C. Volunteer utilization is a recommended but not mandatory component of hospice operations
- D. The program is below the Medicare-mandated minimum of 5% of total patient care hours provided by volunteers and must increase volunteer services to achieve compliance

116. A 59-year-old woman with advanced ovarian cancer on hospice asks her physician about medical aid in dying. She lives in a state where MAID is legal. She reports her pain is well-controlled, she is not

depressed, and she wants to "have control over the timing." Which of the following is the most appropriate initial clinical response?

- A. Immediately provide the prescription because she meets the clinical criteria and has expressed a clear wish
- B. Refuse to discuss MAID because it conflicts with the physician's personal beliefs, without offering referral
- C. Explore what is driving her request in more depth (desire for control, fear of future suffering, concerns about burdening family), assess for depression more thoroughly, ensure she understands the legal requirements and process, and either participate in the MAID process or refer to a willing provider if the physician has a conscientious objection
- D. Tell her that MAID is not available to hospice patients under any circumstances

117. A 73-year-old man with end-stage heart failure on hospice has been on furosemide 80 mg daily for dyspnea from fluid overload. Over the past week, his dyspnea has worsened despite the current diuretic dose. Examination shows bilateral crackles, JVD, and increased lower extremity edema. The hospice physician considers adding metolazone. Which pharmacologic principle explains why metolazone is added rather than simply increasing the furosemide dose further?

- A. Metolazone blocks sodium reabsorption in the distal convoluted tubule, providing "sequential nephron blockade" that overcomes the compensatory distal sodium reabsorption that limits furosemide's effectiveness when used alone — this is the standard approach for diuretic resistance
- B. Metolazone directly improves cardiac contractility through positive inotropic effects
- C. Metolazone has direct pulmonary vasodilating properties that reduce pulmonary edema independent of its diuretic effect
- D. Metolazone replaces furosemide entirely and is a more potent loop diuretic

118. A 64-year-old woman with advanced breast cancer is on hospice. She has been comfortable on her current regimen. She develops a new DVT in her left leg causing significant pain and swelling. Her prognosis is approximately 2 months. She is on comfort measures. Which of the following approaches to anticoagulation is most appropriate?

- A. Anticoagulation is categorically contraindicated in hospice patients regardless of clinical indication
- B. Treat with low-molecular-weight heparin because the DVT is causing distressing symptoms (pain, swelling) that anticoagulation could relieve — the decision is based on whether treatment serves the patient's comfort goals

- C. Transfer to the hospital for IV heparin drip and vascular surgery consultation
- D. Apply compression stockings as the sole intervention without pharmacologic therapy

119. A 71-year-old man with advanced lung cancer is dying at home. His breathing has become agonal — irregular gasping breaths at intervals of 30–40 seconds. His daughter asks, "Is he trying to breathe? Is he suffering?" Which of the following is the most accurate and compassionate response?

- A. "He is actively struggling to breathe and we need to increase his medications immediately"
- B. "These are seizures requiring anticonvulsant medication"
- C. "We should intubate him to support his breathing until he passes"
- D. "The gasping you see is a brainstem reflex called agonal breathing — it is not a conscious effort to breathe, and your father is not aware of these movements. This pattern is normal and expected in the final stage of dying and does not indicate pain or distress."

120. A hospice bereavement coordinator contacts the 68-year-old wife of a patient who died six months ago. The wife reports that she has returned to her book club, attends church, and socializes with friends. However, she still cries daily, misses her husband profoundly, and sometimes reaches for him in bed before remembering he has died. She asks, "Shouldn't I be over this by now?" Which of the following is the most appropriate response?

- A. "Six months is a long time — you should be feeling better by now, and I'd like to refer you for grief counseling"
- B. "The fact that you're still crying daily suggests you need immediate psychiatric evaluation for prolonged grief disorder"
- C. "What you're describing — missing him, crying, reaching for him — is completely normal grief. There is no timeline for grief, and continuing to mourn someone you loved deeply at six months is expected and healthy. The fact that you're also resuming activities and social connections is a sign of healthy adaptation."
- D. "Try to stay busy and avoid thinking about him as much as possible to speed your recovery"

121. A 67-year-old man with advanced non-small cell lung cancer has been enrolled in hospice for five months. He is now entering his third benefit period (the first 60-day period). In addition to the standard physician recertification, which of the following is a NEW requirement for this benefit period that was not required during the first two 90-day periods?

- A. A face-to-face encounter with a hospice physician or nurse practitioner within 30 days before the start of the benefit period, to personally assess the patient and confirm continued eligibility
- B. A second opinion from an independent palliative care specialist not affiliated with the hospice program
- C. A mandatory psychiatric evaluation to confirm the patient's continued acceptance of hospice care
- D. Submission of a formal written appeal to Medicare justifying the extended enrollment

122. A 74-year-old woman with metastatic colon cancer on hospice has been on morphine SR 60 mg every 12 hours. She is also taking dexamethasone 4 mg daily, gabapentin 300 mg TID, and sennadocusate. She develops progressive dysphagia and can no longer swallow tablets but can still take small volumes of liquid. Which of the following medication management approaches is most appropriate?

- A. Crush all tablets including the morphine SR and mix with water for administration
- B. Convert morphine SR to concentrated oral morphine solution, gabapentin to liquid formulation, dexamethasone to subcutaneous injection, and senna to liquid or suppository form — systematically converting each medication to the most appropriate non-tablet route
- C. Insert a nasogastric tube solely for medication administration
- D. Discontinue all medications because the patient can no longer swallow tablets

123. A 55-year-old man with advanced melanoma on nivolumab develops new-onset fatigue, constipation, cold intolerance, dry skin, and weight gain over three weeks. His TSH is 48 mIU/L and free T4 is undetectable. This presentation is most consistent with which immunotherapy-related complication, and what is the appropriate management?

- A. Immune-related hepatitis requiring high-dose corticosteroids and permanent immunotherapy discontinuation
- B. Immune-related colitis with constipation-predominant presentation requiring endoscopic evaluation
- C. Adrenal insufficiency from immune-related hypophysitis requiring urgent hydrocortisone replacement
- D. Immune-related thyroiditis progressing to hypothyroidism — managed with levothyroxine replacement, which typically does not require immunotherapy discontinuation

124. A 62-year-old woman with advanced ovarian cancer on hospice has been comfortable on her current opioid regimen. She develops a new malignant pleural effusion causing moderate dyspnea. She has had three thoracenteses in the past month with rapid reaccumulation (within 5–7 days each time). Her ECOG is 2 and expected survival is 4 months. Which of the following is the most appropriate long-term management strategy?

- A. Continue serial thoracenteses every 5–7 days for the remainder of her life
- B. Initiate high-dose diuretic therapy to prevent effusion reaccumulation
- C. Place an indwelling pleural catheter (IPC) for intermittent home drainage, which eliminates repeated clinic-based procedures and allows home management
- D. Refer for surgical pleurectomy via thoracotomy as definitive treatment

125. A hospice physician is reviewing a newly enrolled 80-year-old man with advanced heart failure. The Medicare Conditions of Participation require that the hospice interdisciplinary team include, at minimum, which of the following core members?

- A. A physician, a registered nurse, a social worker, and a pastoral or other counselor
- B. A physician, a registered nurse, a physical therapist, and a pharmacist
- C. A physician, a nurse practitioner, an occupational therapist, and a dietitian
- D. A physician, a registered nurse, and a chaplain only — social work is recommended but not required

126. A 58-year-old woman with advanced breast cancer on hospice tells her hospice nurse, "I want to go to my daughter's wedding next month. But I'm afraid to ask — I don't know if I'm allowed to leave the house on hospice." Which of the following responses best reflects the core principles of hospice care?

- A. "You would need to revoke hospice before traveling to attend the wedding."
- B. "Absolutely — if your daughter's wedding is important to you, we will work together to make it happen. We'll plan your medication schedule, arrange any equipment you need, and make sure you're comfortable for the trip. Living fully is what hospice is all about."
- C. "I'm afraid we can't authorize travel because you need to remain available for nursing visits."
- D. "You should discuss this with your family and let them make the decision for you."

127. A 71-year-old man with advanced prostate cancer on hospice has painful bone metastases in multiple sites. His palliative care physician recommends a bone-targeted agent to reduce skeletal-related events and potentially reduce bone pain over time. Which of the following agents acts specifically through RANKL inhibition to block osteoclast-mediated bone resorption?

- A. Zoledronic acid, a bisphosphonate that inhibits osteoclasts through the mevalonate pathway
- B. Calcitonin, which directly inhibits osteoclast activity through calcitonin receptor binding
- C. Pamidronate, a bisphosphonate administered intravenously every 3–4 weeks
- D. Denosumab, a monoclonal antibody that blocks RANKL (receptor activator of nuclear factor kappa-B ligand), preventing osteoclast differentiation and activation

128. A 63-year-old woman with advanced pancreatic cancer on hospice develops new-onset diabetes from a combination of tumor-related pancreatic destruction and dexamethasone therapy. Her fasting blood glucose has been consistently above 350 mg/dL. She is symptomatic with polyuria disrupting her sleep, excessive thirst, and blurred vision preventing her from reading — her primary source of enjoyment. The hospice physician considers insulin therapy. Which of the following best justifies treating her hyperglycemia?

- A. Strict glucose control (HbA1c below 7%) is required to prevent long-term diabetic complications
- B. Insulin is classified as a disease-directed therapy and cannot be provided under the hospice benefit
- C. Treatment is warranted for symptom relief — her polyuria, thirst, and blurred vision are directly caused by hyperglycemia and are significantly impairing her comfort and quality of life
- D. All hospice patients with blood glucose above 300 mg/dL must receive insulin per Medicare regulations

129. A palliative care team is caring for a 70-year-old man with advanced gastric cancer. His 12-year-old son has been refusing to visit his father at home and has told his teacher, "My dad is just sick — he'll be fine." His grades have dropped, and he has been getting into fights at school. Based on developmental understanding of grief in school-age children, this behavior is most likely a manifestation of which of the following?

- A. Anticipatory grief presenting as denial, avoidance, and behavioral acting out — school-age children understand that death is permanent but may lack the emotional coping skills to manage the intensity of their feelings, often expressing grief through behavior rather than words
- B. A conduct disorder unrelated to his father's illness requiring disciplinary intervention

- C. Evidence that the child has not been told about his father's condition and is completely unaware
- D. Normal pre-adolescent rebellion that has no connection to the family's medical situation

130. A 66-year-old man with advanced hepatocellular carcinoma is on hospice. He has been taking morphine for pain. His liver function has deteriorated significantly over the past two weeks (bilirubin rising from 5 to 16 mg/dL). He develops increasing somnolence despite no change in his prescribed morphine dose. His GFR is 65 mL/min (normal). The most important pharmacokinetic consideration explaining his worsening sedation is which of the following?

- A. Morphine is being converted to a toxic hepatic metabolite that causes progressive liver damage
- B. Worsening hepatic function has reduced first-pass metabolism of oral morphine, increasing its systemic bioavailability — more drug reaches systemic circulation at the same prescribed oral dose, producing higher serum levels and greater sedation
- C. Morphine is accumulating because it is entirely renally excreted and his kidneys are failing
- D. The somnolence is entirely due to hepatic encephalopathy and is completely unrelated to morphine

131. A 72-year-old woman with end-stage heart failure on hospice has been on furosemide 80 mg daily for dyspnea from fluid overload. Her dyspnea has worsened despite the current dose. She has bilateral crackles, JVD, and worsening lower extremity edema. Her hospice physician considers adding metolazone 2.5 mg daily. Which pharmacologic principle explains the rationale for this combination?

- A. Metolazone has direct pulmonary vasodilating properties that reduce pulmonary edema
- B. Metolazone replaces furosemide entirely as a more potent diuretic agent
- C. Metolazone directly improves cardiac contractility through positive inotropic effects
- D. Metolazone blocks sodium reabsorption in the distal convoluted tubule, providing "sequential nephron blockade" that overcomes the compensatory distal sodium reabsorption limiting furosemide's effectiveness alone

132. A 59-year-old man with advanced esophageal cancer has complete dysphagia. He requires all medications via non-oral routes. He is currently on morphine SR 90 mg every 12 hours (total 180 mg oral morphine per day). The hospice team converts to a continuous subcutaneous morphine infusion using the standard 3:1 oral-to-parenteral ratio. What is the correct continuous SC morphine infusion rate?

- A. 7.5 mg/hour (180 mg/24 hours — no conversion applied)
- B. 1.25 mg/hour (30 mg/24 hours — using an incorrect 6:1 ratio)
- C. 2.5 mg/hour (60 mg SC per 24 hours — using the correct 3:1 ratio:  $180 \div 3 = 60$  mg SC/day)
- D. 5 mg/hour (120 mg/24 hours — using an incorrect 1.5:1 ratio)

133. A palliative care physician is completing a death certificate for a 69-year-old man who died of aspiration pneumonia from advanced Parkinson's disease. Which of the following Part I cause-of-death sequences is correctly formatted?

- A. Line a: "Aspiration pneumonia" — Line b: "Dysphagia" — Line c: "Parkinson's disease" — correctly tracing the causal chain from immediate cause to underlying disease
- B. Line a: "Cardiac arrest" — Line b: "Aspiration" — Line c: "Old age"
- C. Line a: "Natural causes" — with no additional lines
- D. Line a: "Parkinson's disease" — with no additional lines (listing only the underlying cause)

134. A 65-year-old woman with advanced ovarian cancer on hospice develops tense ascites from peritoneal carcinomatosis (NOT portal hypertension). She has tried diuretics without benefit. A paracentesis is performed, removing 5 liters. She asks whether she needs albumin infusion afterward, as she has read about this online. Which of the following is the most accurate response?

- A. Albumin replacement is always required after any large-volume paracentesis regardless of the cause
- B. Albumin replacement is standard practice for large-volume paracentesis in cirrhotic (portal hypertensive) ascites but is NOT routinely required for malignant ascites from peritoneal carcinomatosis, where the mechanism and hemodynamic consequences are different
- C. Albumin replacement is never indicated for any type of ascites regardless of the clinical scenario
- D. Albumin must be infused before the paracentesis, not after, to prevent hypotension during the procedure

135. A 73-year-old man with advanced COPD on hospice has been having "good days and bad days" over the past month. His wife interprets the good days as signs of recovery. The hospice nurse should explain that this fluctuating pattern represents which of the following?

- A. Evidence that his COPD medications are effective and he may no longer need hospice

- B. A new pulmonary infection superimposed on his COPD causing the variability
- C. An inconsistent trajectory that does not fit any recognized disease pattern and requires further evaluation
- D. The characteristic organ failure trajectory — fluctuating function with good days and bad days within an overall declining trajectory, not indicating recovery but rather the natural variability of COPD and heart failure

136. A 58-year-old man with advanced melanoma has been on hospice for two months. He develops a new painful, ulcerating skin lesion on his chest wall from cutaneous metastatic disease. The wound produces moderate exudate and a severely foul odor. The odor is distressing to both the patient and visiting family members. Which topical intervention most effectively targets the source of the malodor?

- A. Silver sulfadiazine cream applied daily for broad-spectrum antimicrobial coverage
- B. Hydrogen peroxide 3% solution used for wound irrigation at each dressing change
- C. Topical metronidazole 0.75% gel applied directly to the wound surface — specifically targeting the anaerobic bacteria producing the characteristic malodor
- D. Povidone-iodine solution applied to the wound periphery for antiseptic effect

137. A hospice social worker is meeting with the family of a patient who died one week ago. The patient's 45-year-old wife reports that she has been functioning normally — cooking, cleaning, making funeral arrangements, and managing finances. She has not cried and says, "I don't know what's wrong with me. Everyone expects me to be falling apart, but I feel numb." This presentation is most consistent with which of the following?

- A. A normal initial bereavement response — numbness, disbelief, and functional "autopilot" are common in the first days to weeks after a death and do not indicate pathology or absence of love for the deceased
- B. Pathologic absent grief requiring immediate psychiatric referral and medication
- C. Evidence that the wife had a poor relationship with her husband and is experiencing relief
- D. Dissociative disorder triggered by the traumatic experience of the death

138. A 70-year-old man with advanced heart failure on hospice has an ICD whose shock function was deactivated last month by the device representative. His family asks whether the magnet that was initially placed over the device is still needed. Which of the following is the most accurate response?

- A. The magnet must remain in place permanently because the reprogramming only partially disables the ICD
- B. The magnet can be removed — the device representative permanently reprogrammed the ICD to disable shock delivery, and the magnet is no longer needed; the magnet provided only temporary suspension during the interval before permanent reprogramming
- C. The magnet should remain as a backup in case the reprogramming spontaneously reverses
- D. The magnet cannot be removed until the device is surgically explanted after the patient's death

139. A 63-year-old woman with advanced lung cancer on hospice tells her hospice physician, "I've heard about a new targeted therapy for my type of cancer mutation. I want to try it, but I don't want to leave hospice." The hospice physician explains her options. Which of the following most accurately describes how she can access the targeted therapy?

- A. Some hospice programs may cover targeted therapy under the per diem if it is determined to be primarily for symptom palliation
- B. Targeted therapy is permanently forfeited once a patient enrolls in hospice
- C. She can receive targeted therapy simultaneously with hospice without any changes to her enrollment
- D. She may revoke hospice at any time to pursue disease-directed therapy and may re-elect hospice later if she chooses — hospice revocation is voluntary and reversible

140. A 71-year-old woman with metastatic breast cancer is on hospice. She has been on a stable opioid regimen for four months. She develops new confusion, hallucinations, and myoclonic jerks. Her morphine dose has not changed, but her creatinine has risen from 1.0 to 3.6 mg/dL over the past two weeks. The most appropriate opioid management is which of the following?

- A. Continue the current morphine dose with increased monitoring since her symptoms are mild
- B. Increase the morphine dose because her worsening symptoms indicate undertreated pain
- C. Rotate to fentanyl, which has no active metabolites that accumulate in renal impairment — morphine's metabolite M6G is renally excreted and accumulates in renal failure, causing the neurotoxicity she is experiencing

D. Rotate to meperidine, which is specifically designed for renal-impaired patients

141. A 66-year-old man with end-stage liver disease on hospice is taking lactulose for hepatic encephalopathy and morphine for abdominal pain. A team member asks whether lactulose and morphine are compatible. Which of the following statements about this combination is most accurate?

- A. Lactulose serves a dual purpose — treating hepatic encephalopathy by reducing ammonia absorption AND functioning as an osmotic laxative that helps counteract opioid-induced constipation, making the two medications complementary rather than conflicting
- B. Lactulose is contraindicated with opioids because the combination causes severe hypokalemia
- C. Morphine must be discontinued before lactulose can be initiated to avoid dangerous synergy
- D. Lactulose neutralizes morphine's analgesic effect through direct chemical interaction in the GI tract

142. A 74-year-old woman with advanced dementia (FAST 7E) on hospice develops a fever of 39.3°C and tachypnea. This is her fifth episode of aspiration pneumonia in 14 months. Each prior episode was treated with antibiotics. Her daughter asks the hospice team for guidance. The most important consideration in the antibiotic decision is which of the following?

- A. The specific organism identified on sputum culture and its antibiotic sensitivity pattern
- B. Whether the recurrent pattern of aspiration pneumonia despite repeated treatment reflects the natural trajectory of advanced dementia — each antibiotic course treats the infection but does not change the underlying aspiration risk — and whether continued treatment serves comfort goals or prolongs dying
- C. Whether the patient's temperature exceeds 39.5°C, which mandates antibiotic treatment regardless of goals
- D. The cost of the antibiotic course relative to the hospice per diem allocation

143. A 57-year-old woman with advanced sarcoma is on high-dose opioid therapy (oral morphine equivalent 800 mg/day) with persistent pain and significant side effects (sedation, myoclonus, confusion). Her pain management specialist recommends rotation to methadone. Before initiating methadone, the physician must be aware of which unique pharmacologic property that distinguishes methadone from all other commonly used opioids?

- A. Methadone has intrinsic anti-inflammatory activity equivalent to corticosteroids
- B. Methadone directly stimulates serotonin synthesis in the brainstem

- C. Methadone causes irreversible hepatotoxicity at all dose levels requiring weekly LFT monitoring
- D. Methadone has a long, variable half-life (8–59 hours) that causes tissue accumulation over 5–7 days — a patient who appears comfortable on day 3 may develop delayed-onset toxicity as levels continue to rise, requiring vigilant monitoring during the initiation period

144. A hospice bereavement coordinator contacts the 70-year-old husband of a patient who died eight months ago. He reports that he has resumed some activities but still cries daily and sometimes hears his wife's voice calling his name. He asks, "Am I going crazy?" Which of the following is the most accurate clinical interpretation?

- A. Daily crying at eight months indicates prolonged grief disorder requiring immediate CGT referral
- B. Hearing a deceased spouse's voice is a pathognomonic symptom of psychosis requiring antipsychotic medication
- C. His symptoms — daily crying and auditory experiences of the deceased — are within the range of normal grief; hearing or sensing the presence of the deceased is reported by 30–60% of bereaved individuals and is not a hallucination or psychotic symptom
- D. His grief has become "stuck" and he needs to be told to stop crying and focus on moving forward

145. A 62-year-old woman with advanced cervical cancer on hospice has been experiencing severe pelvic pain from tumor invasion of the sacral plexus. She describes the pain as burning, shooting, and electric-shock-like, radiating down both legs. Her current opioid provides partial relief. Based on the neuropathic characteristics of her pain, which adjuvant analgesic class should be added?

- A. A gabapentinoid (gabapentin or pregabalin) or an SNRI (duloxetine) — the first-line adjuvant analgesic classes for neuropathic pain, targeting voltage-gated calcium channels or descending inhibitory pathways respectively
- B. An NSAID for prostaglandin-mediated inflammatory pain at the tumor-nerve interface
- C. An acetaminophen-codeine combination product for enhanced opioid analgesia
- D. A benzodiazepine for the anxiety component that is amplifying her neuropathic pain perception

146. A 68-year-old man with advanced colon cancer on hospice has been on a stable opioid regimen for three months. He develops new-onset constipation refractory to senna 4 tablets BID and polyethylene glycol 17 g daily. He has not had a bowel movement in 10 days despite these medications. Rectal exam

shows no impaction. Abdomen is distended but soft without obstruction signs. Which of the following is the most appropriate next step?

- A. Add docusate as the missing laxative component that will resolve his refractory constipation
- B. Start a peripherally acting mu opioid receptor antagonist (PAMORA) such as methylnaltrexone 12 mg SC — indicated for opioid-induced constipation that has failed optimized conventional laxative therapy
- C. Discontinue all opioids and switch to non-opioid pain management to eliminate constipation
- D. Initiate a high-fiber diet with increased fluid intake as the definitive intervention

147. A 73-year-old man with advanced prostate cancer on hospice develops acute-onset back pain, bilateral leg weakness, and urinary retention over 48 hours. Dexamethasone 16 mg IV is administered immediately. MRI reveals a single-level epidural metastasis at T8 with significant cord compression. His pre-event ECOG was 1, and his expected survival is 8 months. Based on the Patchell trial evidence, which treatment approach offers the best chance of preserving neurologic function?

- A. Radiation therapy alone (30 Gy in 10 fractions) as the universal treatment for all MSCC
- B. High-dose corticosteroids alone with reassessment in one week
- C. Comfort measures only because neurologic deficits in cancer patients are universally irreversible
- D. Surgical decompression followed by postoperative radiation therapy — demonstrated superior to radiation alone for single-level compression in patients with good performance status and expected survival exceeding three months

148. A 65-year-old woman with advanced ovarian cancer develops sudden massive vaginal hemorrhage while at home on hospice. She is on comfort measures with a DNR order. Bright red blood is soaking through bed linens rapidly. She is conscious and appears terrified. The hospice comfort kit is at the bedside. Which of the following is the single most important immediate intervention?

- A. Apply vaginal packing for mechanical tamponade of the hemorrhage source
- B. Start a rapid IV fluid bolus for volume resuscitation to maintain hemodynamic stability
- C. Administer midazolam from the comfort kit for rapid sedation to eliminate the patient's conscious terror — in catastrophic hemorrhage, preventing conscious suffering is the highest priority
- D. Call 911 for emergency transport to the hospital for surgical hemorrhage control

149. A 60-year-old man with advanced gastric cancer is on hospice. He asks his hospice physician, "My neighbor went to Germany for an experimental treatment. Should I try everything possible?" Which of the following responses best balances empathy with clinical honesty?

- A. "I can hear how much you want to keep fighting, and I respect that. Let's talk about what you've read and what you're hoping for. I also want to make sure we're taking the best possible care of you right now, whatever you decide about other treatments."
- B. "Experimental treatments in other countries are never legitimate and should not be considered."
- C. "If that's what you want, I fully support it without any further discussion or clinical input."
- D. "At this stage, pursuing additional treatment is futile. You need to accept your diagnosis."

150. A 72-year-old man with end-stage COPD on hospice at home develops loud, gurgling breathing (death rattle) that has persisted for four hours. Glycopyrrolate 0.2 mg SC was administered three hours ago. The gurgling continues. His wife is visibly distressed by the sound. Which of the following best explains the persistent rattle and guides communication with the family?

- A. The glycopyrrolate has completely failed and a different anticholinergic agent should be tried immediately
- B. Anticholinergic agents reduce NEW secretion production but cannot dry EXISTING accumulated secretions — the noise from previously pooled secretions will persist until reabsorbed or drained by gravity with repositioning. The family should be reassured that the patient is most likely unaware of the sound.
- C. The persistent rattle indicates aspiration pneumonia requiring antibiotic treatment at home
- D. Deep oropharyngeal suctioning should be performed every 30 minutes to remove the secretions

151. A 55-year-old woman with advanced breast cancer on hospice develops new bilateral lower extremity edema. Physical examination reveals non-pitting edema extending from feet to mid-thighs bilaterally, thickened skin with a woody texture, and a positive Stemmer's sign (inability to pinch a skin fold at the base of the second toe). She has no JVD, no crackles on lung auscultation, and no hepatomegaly. This presentation is most consistent with which of the following?

- A. Congestive heart failure requiring diuretic therapy with furosemide
- B. Deep vein thrombosis requiring urgent anticoagulation with LMWH

C. Nephrotic syndrome causing generalized edema from proteinuria

D. Lymphedema from pelvic lymph node obstruction or prior lymph node dissection — characterized by non-pitting edema, skin thickening, positive Stemmer's sign, and failure to respond to diuretics

152. A 64-year-old man with advanced lung cancer on hospice has been on morphine for pain. He develops persistent nausea that worsens with head movement and position changes. The nausea is not related to meals, medication timing, or bowel function. Based on the positional pattern, which antiemetic class is most appropriately targeted?

A. A dopamine antagonist (haloperidol) for chemoreceptor trigger zone-mediated nausea

B. A prokinetic agent (metoclopramide) for gastroparesis-related postprandial nausea

C. An antihistamine or anticholinergic (meclizine or scopolamine) targeting vestibular-mediated nausea — the movement and position-change pattern is the hallmark of vestibular-mediated emesis

D. A serotonin antagonist (ondansetron) for peripheral serotonin-mediated GI nausea

153. A 71-year-old man with advanced pancreatic cancer is actively dying at home on hospice. Over the past 24 hours, his wife reports that he had a dramatic improvement — he became alert, asked for his favorite meal, talked to his grandchildren on the phone, and expressed love and gratitude to his wife. Today he has returned to his prior unresponsive state. The hospice nurse should explain to the wife that this phenomenon most likely represents which of the following?

A. A terminal rally (terminal lucidity) — a transient, poorly understood period of improvement that may occur hours to days before death, not indicating recovery. It may have been a precious, final opportunity for connection, and the family should be prepared for the decline that typically follows.

B. Evidence that his cancer treatment was working and he was experiencing a clinical response

C. A medication interaction causing temporary alertness that requires dosage adjustment

D. Resolution of a concurrent infection that was causing his previous obtundation

154. A hospice program is conducting a quality review. The data show that volunteer utilization is at 3.5% of total patient care hours. Under Medicare Conditions of Participation, which of the following is the regulatory significance of this finding?

A. The program is within acceptable parameters because the Medicare volunteer minimum is 2%

- B. The program is below the Medicare-mandated minimum of 5% of total patient care hours provided by volunteers and must increase volunteer services to achieve compliance
- C. Volunteer utilization is a recommended but not mandatory component of hospice programs
- D. The volunteer minimum applies only to non-profit hospice programs, not to for-profit organizations

155. A 68-year-old woman with advanced breast cancer on hospice develops a symptomatic DVT in her right leg causing significant pain and swelling. Her prognosis is approximately 3 months. She is on comfort measures. Which of the following anticoagulation approaches is most appropriate?

- A. Anticoagulation is categorically contraindicated for all hospice patients with DVT
- B. Transfer to the hospital for IV heparin and vascular surgery consultation
- C. Apply compression stockings and elevate the leg as the sole intervention without anticoagulation
- D. Treat with subcutaneous LMWH because the DVT is causing distressing symptoms (pain, swelling) that anticoagulation could relieve — consistent with the patient's comfort goals

156. A 60-year-old man with advanced hepatocellular carcinoma on hospice has been taking lactulose for hepatic encephalopathy with good symptom control. The hospice pharmacy questions whether lactulose is covered under the hospice benefit since it is a "disease-directed" medication. Which of the following is the most accurate response?

- A. Lactulose must be discontinued because all disease-modifying therapies are excluded from the hospice benefit
- B. The pharmacy is correct, and the patient must pay for lactulose out of pocket
- C. Lactulose directly relieves distressing symptoms (confusion, agitation from encephalopathy) and is covered under the hospice per diem as a comfort-directed medication related to the terminal diagnosis
- D. Lactulose can only be continued if the hospice medical director personally approves it

157. A 74-year-old man with end-stage heart failure on hospice has a mechanical aortic valve. He has been on warfarin for 20 years. His prognosis is estimated at 5 weeks. The hospice team reviews his anticoagulation. Which of the following best explains why his warfarin should be continued despite his short prognosis?

- A. Mechanical heart valves without anticoagulation carry significant, immediate risk of valve thrombosis and systemic embolization — unlike atrial fibrillation alone (where short-term stroke risk is negligible), the risk of stopping warfarin with a mechanical valve is substantial even over weeks
- B. Warfarin provides direct symptom relief for his heart failure symptoms
- C. Medicare requires continuation of all pre-enrollment medications during hospice
- D. Stopping warfarin causes immediate valve calcification requiring emergency surgery

158. A 67-year-old man with advanced colon cancer on hospice develops acute pulmonary edema with severe dyspnea. He is on morphine for baseline dyspnea and furosemide 40 mg daily. His examination shows bilateral crackles to the apices, JVD, an S3 gallop, and SpO<sub>2</sub> of 80%. He is on comfort measures with a DNR. Which of the following is the most appropriate immediate management?

- A. Continue current medications unchanged and observe for 24 hours
- B. Administer a morphine bolus for dyspnea AND increase furosemide to 80 mg IV for the acute volume overload — addressing both the symptom (morphine) and its treatable cause (diuresis) is consistent with comfort goals
- C. Administer morphine only without addressing the fluid overload because diuretics are disease-directed therapies
- D. Transfer to the hospital for BiPAP and IV diuretic therapy despite the comfort measures designation

159. A palliative care physician is meeting with a 45-year-old woman with stage IV ovarian cancer who has just been told her chemotherapy is no longer working. She is tearful and says, "I don't know how to tell my children." The physician feels the urge to discuss alternative treatments. Based on effective communication principles, what should the physician do FIRST?

- A. Immediately outline remaining treatment options to give her something positive to focus on
- B. Contact the social worker to manage the family communication aspects of the situation
- C. Ask whether she would prefer to discuss feelings or treatment options before proceeding
- D. Respond to the emotion before providing clinical information — acknowledge her distress, validate her concern about her children, and allow silence before transitioning to any discussion of next steps

160. A 72-year-old man with advanced COPD on hospice has been on morphine for dyspnea. His oxygen saturation is 86% on 2 L/min nasal cannula. He is clearly hypoxemic. His dyspnea remains

significant despite morphine and a fan to the face. The family asks whether the oxygen flow rate should be increased. Based on current evidence about supplemental oxygen in palliative care, which of the following is the most appropriate recommendation?

- A. Discontinue oxygen entirely because it provides no benefit for dyspnea under any circumstances
- B. Replace supplemental oxygen with heliox for all COPD patients with dyspnea
- C. This patient IS hypoxemic (SpO<sub>2</sub> 86%, below 90% threshold) — unlike non-hypoxemic patients where oxygen provides no benefit over room air, patients with documented hypoxemia may benefit from increased supplemental oxygen for dyspnea relief
- D. Increase oxygen only if the patient specifically requests it, regardless of clinical assessment

161. A 63-year-old woman with advanced pancreatic cancer on hospice has severe epigastric pain radiating to the back that is refractory to high-dose opioids. Her pain management specialist recommends celiac plexus neurolysis. Which of the following statements about this procedure is most accurate?

- A. Celiac plexus neurolysis achieves significant pain relief in 70–90% of patients with pancreatic cancer pain, substantially reduces opioid requirements, and evidence supports early consideration rather than relegation to last-resort status
- B. Celiac plexus neurolysis is effective only for neuropathic pain and has no role in visceral pain management
- C. The procedure provides temporary relief lasting only 48 hours and must be repeated weekly
- D. Celiac plexus neurolysis is contraindicated in patients already on opioid therapy

162. A 55-year-old man with advanced melanoma on ipilimumab develops severe watery diarrhea (10 stools/day), abdominal cramping, and bloody stool. Stool studies are negative for *C. difficile* and other pathogens. This presentation began 10 days after his last immunotherapy infusion. The most appropriate immediate treatment is which of the following?

- A. Loperamide 4 mg initially, then 2 mg after each loose stool as the sole intervention
- B. Systemic corticosteroids (prednisone 1–2 mg/kg/day) for immune-related colitis, with immunotherapy held and consideration of infliximab if steroid-refractory
- C. Empiric broad-spectrum antibiotics for presumed infectious colitis despite negative studies

D. Octreotide 150 mcg SC three times daily for secretory diarrhea management

163. A 70-year-old man with end-stage liver disease on hospice develops worsening hepatic encephalopathy despite lactulose therapy. His wife asks about adding rifaximin. The hospice physician considers the request. Which of the following principles should guide this medication decision?

- A. Rifaximin is an antibiotic and all antibiotics are categorically excluded from the hospice benefit
- B. Rifaximin cannot be prescribed by a hospice physician — only a hepatologist can prescribe it
- C. Rifaximin requires a 30-day prior authorization from Medicare before it can be dispensed
- D. If rifaximin would reduce the patient's confusion and agitation (symptom relief), it is consistent with comfort-focused goals and may be covered under the hospice per diem as a medication related to the terminal diagnosis

164. A palliative care team is reviewing the quality metrics for its program. The data show that 40% of patients die within 7 days of hospice enrollment, and the median length of stay is 10 days. This pattern most strongly indicates which of the following quality concerns?

- A. The hospice program is enrolling patients too early and providing unnecessary services
- B. The hospice program's referral patterns are optimal and meet industry benchmarks
- C. Late referrals to hospice are denying patients and families the full benefit of hospice services — symptom management, psychosocial support, spiritual care, advance care planning, and caregiver preparation all require time to provide effectively
- D. The hospice program is providing overly aggressive symptom management that is hastening death

165. A 68-year-old woman with advanced lung cancer on hospice has been experiencing cancer-related fatigue significantly limiting her daily activities. Her hemoglobin is 10.5 g/dL, thyroid function is normal, and depression screening is negative. Non-pharmacologic measures have been implemented. She asks about medication options. Which of the following has the strongest evidence for cancer-related fatigue?

- A. Methylphenidate 5 mg in the morning and at noon — a CNS stimulant with rapid onset and the strongest evidence among pharmacologic agents for cancer-related fatigue
- B. Modafinil 200 mg daily for sustained wakefulness promotion throughout the day

- C. Dexamethasone 8 mg daily for long-term energy and appetite improvement
- D. Erythropoiesis-stimulating agent to treat her mild anemia as the definitive cause of fatigue

166. A 73-year-old man with advanced heart failure on hospice has been on furosemide for dyspnea management. Over the past three days, his dyspnea has improved, but he has developed new confusion and muscle cramps. His serum sodium is 124 mEq/L and potassium is 2.6 mEq/L. These abnormalities are most likely caused by which of the following?

- A. Progression of his heart failure causing dilutional hyponatremia from increased ADH secretion
- B. Diuretic-induced electrolyte derangements — furosemide causes renal sodium and potassium wasting, producing hyponatremia and hypokalemia that manifest as confusion and muscle cramps
- C. Morphine toxicity causing SIADH and secondary electrolyte disturbances
- D. Hepatic encephalopathy from previously undiagnosed concurrent liver disease

167. A 60-year-old man with advanced gastric cancer is dying at home on hospice. His breathing has become agonal — irregular gasping breaths occurring every 30–40 seconds. His daughter asks, "Is he suffering? Is he trying to breathe?" Which of the following is the most accurate and compassionate response?

- A. "He is actively struggling to breathe and we need to increase his oxygen immediately."
- B. "These are seizures requiring anticonvulsant medication from the comfort kit."
- C. "We should call 911 because agonal breathing indicates a cardiac emergency."
- D. "The gasping you see is a brainstem reflex — not a conscious effort to breathe. Your father is not aware of these movements and is not suffering. This is a normal, expected part of the final stage of dying."

168. A hospice nurse visits a 76-year-old man with end-stage heart failure who is actively dying. She notes mottling of both lower extremities extending to mid-thighs, absent radial pulses bilaterally, anuria for 14 hours, mandibular breathing, and the patient is unresponsive. Based on the convergence of these signs, the nurse should communicate which of the following to the family?

- A. The patient needs emergency transport to the hospital for evaluation of shock and renal failure

B. The signs are concerning but inconclusive, and the nurse should reassess in 24 hours before making any prognostic statements

C. Death is likely approaching within hours to a few days — these signs represent the progressive cardiovascular and renal failure of active dying, and the family should be supported in spending this remaining time together

D. The mottling is caused by cold room temperature and will resolve with warming blankets

169. A 64-year-old woman with advanced breast cancer on hospice tells her hospice physician, "I keep asking myself — what was the point of my life? Did any of it matter?" She is not clinically depressed. This existential questioning is best addressed through which of the following?

A. Continued spiritual care — exploring her questions about meaning, purpose, and legacy through dignity therapy, narrative life review, and facilitated connections with the people and activities that have given her life meaning

B. Prescribing an anxiolytic to reduce the existential anxiety causing her questioning

C. Referral to psychiatry for evaluation of existential depression requiring antidepressant therapy

D. Dismissing her concerns as philosophical rumination that has no clinical relevance

170. A 71-year-old man with advanced prostate cancer on hospice has been comfortable on opioids. He develops acute-onset severe back pain with bilateral lower extremity weakness and urinary retention over 36 hours. Dexamethasone 16 mg IV is administered. MRI shows single-level epidural cord compression at T9. His pre-event ECOG was 2 and expected survival is 6 months. The MOST critical factor that will determine his neurologic outcome is which of the following?

A. The radiation fractionation schedule chosen by the radiation oncologist

B. His neurologic status at the time definitive treatment is initiated — patients ambulatory at treatment have >80% chance of remaining ambulatory; paraplegic patients have <10% chance of regaining function

C. The histologic type of prostate cancer and its expected radiosensitivity

D. His age, which is the sole determinant of neurologic recovery from spinal cord compression

171. A 59-year-old woman with advanced cervical cancer on hospice has refractory pelvic pain from tumor invasion. She is on high-dose systemic opioids (OME 500 mg/day) with persistent pain and

intolerable side effects. The pain management team recommends an intrathecal drug delivery system. Using the standard 300:1 oral-to-intrathecal morphine conversion, what is the approximate daily intrathecal morphine dose?

- A. 50 mg intrathecal morphine per day using a 10:1 ratio
- B. 16.7 mg intrathecal morphine per day using a 30:1 ratio
- C. 5 mg intrathecal morphine per day using a 100:1 ratio
- D. Approximately 1.7 mg intrathecal morphine per day using the correct 300:1 ratio

172. A 67-year-old man with advanced colon cancer on hospice has been taking oxycodone for pain. He develops progressive renal impairment (GFR declining from 55 to 13 mL/min). He develops new confusion and myoclonic jerks. The palliative care physician suspects opioid metabolite accumulation and plans an opioid rotation. Which of the following opioids is preferred in significant renal impairment?

- A. Morphine, which is the most extensively studied opioid in palliative care regardless of renal function
- B. Codeine, which requires only hepatic metabolism and has no renal concerns
- C. Fentanyl, which is metabolized by CYP3A4 to inactive norfentanyl — no active metabolites accumulate in renal failure, making it the safest choice
- D. Meperidine, which was historically recommended for renal-impaired patients

173. A 70-year-old man with end-stage COPD on hospice has been on morphine for dyspnea. He also takes gabapentin 900 mg TID for neuropathy. Over the past week, his confusion, sedation, and unsteadiness have worsened. His creatinine has risen from 1.1 to 3.0 mg/dL. Which medication requires the most urgent dose adjustment?

- A. Gabapentin, which is entirely renally excreted and accumulates rapidly in renal impairment — causing dose-dependent sedation, confusion, ataxia, and myoclonus at standard doses when GFR declines
- B. Morphine, which should be the primary focus because M6G accumulation is always more dangerous than gabapentin accumulation
- C. Both medications require identical adjustment with no priority difference
- D. Neither medication is affected by renal impairment and no dose changes are needed

174. A palliative care physician is caring for a 72-year-old man with advanced lung cancer. He tells his physician, "I know I'm dying. But my grandson asked me yesterday if I was going to his Little League game in the spring. I didn't know what to say." Which of the following responses best demonstrates effective communication about prognosis within an emotionally complex situation?

- A. "You should tell your grandson that you won't be alive for his game — children need to hear the truth directly."
- B. "That must have been a difficult moment. It sounds like your relationship with your grandson is very important to you. Would it help to talk about how to share what's happening with him in a way that feels right for both of you? I can also connect you with our social worker, who has experience helping families have these conversations with children."
- C. "I would avoid the topic entirely and redirect your grandson to another subject."
- D. "You should promise him you'll be there to give him hope, even if you're not sure you will be."

175. A 58-year-old woman with advanced sarcoma enrolled in hospice has been on morphine SR 120 mg every 12 hours. She develops a new pain complaint and her physician adds tramadol 50 mg every 6 hours. She is also taking duloxetine 60 mg daily for depression. Within 48 hours, she develops agitation, hyperthermia, diaphoresis, bilateral lower extremity clonus, and hyperreflexia. The most likely diagnosis is which of the following?

- A. Neuroleptic malignant syndrome from an interaction between morphine and duloxetine
- B. Opioid-induced hyperalgesia from the tramadol addition causing paradoxical pain worsening
- C. An allergic reaction to tramadol requiring epinephrine administration
- D. Serotonin syndrome from the combination of tramadol (which has serotonin reuptake inhibition activity) and duloxetine (an SNRI) — both increase serotonergic tone, and the distinguishing feature of clonus confirms serotonin syndrome over NMS

176. A 63-year-old man with advanced gastric cancer on hospice is experiencing nausea that is worst after meals, with early satiety and bloating. His nausea is not positional and does not correlate with medication timing. His abdomen is soft with normal bowel sounds. There is no evidence of bowel obstruction. Based on the postprandial pattern, which antiemetic most directly addresses the likely mechanism?

- A. Scopolamine transdermal patch for vestibular-mediated nausea

- B. Ondansetron 4 mg IV for serotonin-mediated peripheral GI nausea
- C. Metoclopramide 10 mg before meals — combining antiemetic D2 antagonism with prokinetic 5-HT<sub>4</sub> agonism to improve opioid-related gastroparesis, the likely mechanism given the postprandial timing
- D. Dexamethasone 8 mg IV for centrally-mediated nausea from presumed ICP elevation

177. A hospice physician is completing a death certificate for a 68-year-old woman who died of respiratory failure from metastatic breast cancer. The physician lists Part I, Line a: "Cardiac arrest." Why is this cause-of-death entry problematic?

- A. "Cardiac arrest" is the mechanism of death common to virtually all deaths and provides no information about the disease that actually caused the death — the certificate should specify the disease process (respiratory failure, Line a; metastatic breast cancer, Line b; invasive ductal carcinoma, Line c)
- B. "Cardiac arrest" is appropriate only if the death was witnessed by a cardiologist
- C. "Cardiac arrest" is acceptable because all cancer deaths ultimately involve cardiac arrest
- D. "Cardiac arrest" must be accompanied by the specific terminal cardiac rhythm identified on ECG

178. A 74-year-old man with advanced COPD on hospice is being managed with morphine for dyspnea. He is also taking dexamethasone 4 mg daily for appetite stimulation. He develops persistent hiccups that have lasted six days, interfering with eating and sleep. The temporal relationship to dexamethasone initiation (started three weeks ago) strongly suggests the corticosteroid as the cause. Which of the following is the most appropriate initial management?

- A. Increase the dexamethasone dose because higher doses may paradoxically suppress the hiccup reflex
- B. Reduce the dexamethasone dose to the lowest effective amount (or switch to an alternative corticosteroid) and initiate baclofen 5 mg three times daily for hiccup-specific treatment
- C. Add chlorpromazine 50 mg TID as the sole intervention without addressing the dexamethasone
- D. Discontinue dexamethasone entirely without considering the impact on the patient's appetite

179. A 66-year-old man with advanced lung cancer has been on hospice for three months. His 15-year-old daughter has been increasingly withdrawn, refusing to visit her father, and has told her school counselor that she "doesn't see the point of anything anymore." Her grades have dropped significantly. Based on adolescent developmental considerations, which of the following is the most appropriate hospice team response?

- A. Defer to the school counselor to manage the daughter's emotional needs without hospice involvement
- B. Inform the mother that her daughter needs counseling and leave the referral process to the family
- C. Report the daughter's behavior to child protective services for suspected neglect
- D. Arrange for the hospice social worker or bereavement coordinator to meet with the daughter, assess her emotional state and safety, and facilitate referral for adolescent counseling or support resources

180. A 71-year-old woman with metastatic breast cancer on hospice has been on a stable opioid regimen. She also takes senna 2 tablets at bedtime and docusate 100 mg BID. After five months of stable dosing, she asks whether she can stop the laxative since she has had no constipation. Which of the following is the most accurate advice?

- A. She can safely stop the laxative on a trial basis because five months of opioid therapy has likely resolved any constipation tendency
- B. She should switch from senna to fiber supplementation for a more natural approach
- C. Continue the prophylactic laxative because tolerance to opioid-induced constipation does NOT develop — constipation will recur if the laxative is stopped, regardless of how long the bowels have been functioning well
- D. She should stop the senna but continue docusate alone as adequate maintenance therapy

181. A 62-year-old woman with advanced ovarian cancer on hospice has been comfortable on her pain regimen. She develops new-onset severe right upper quadrant pain from rapidly enlarging hepatic metastases causing hepatic capsule distension. Her opioid provides partial relief. The palliative care physician adds a non-opioid agent that specifically targets the mechanism of hepatic capsule pain. Which of the following is most appropriate?

- A. Dexamethasone 8 mg daily — reducing hepatic inflammation and peritumoral edema directly decreases capsular stretch, targeting the specific mechanism of her pain
- B. Gabapentin 300 mg TID for neuropathic pain pathway modulation
- C. Acetaminophen 1000 mg every 6 hours for general analgesic augmentation
- D. An NSAID for generalized anti-inflammatory effect at the tumor-liver interface

182. A 73-year-old man with advanced prostate cancer on hospice has painful bone metastases in multiple sites. His current regimen includes morphine and gabapentin. His physician recommends

adding a non-opioid agent specifically targeting bone pain. Which of the following is the most appropriate addition?

- A. Acetaminophen 1000 mg every 6 hours for general analgesic augmentation
- B. An NSAID (celecoxib 200 mg daily or ibuprofen 600 mg TID) — specifically effective for bone pain because it inhibits prostaglandin synthesis at the site of bony metastatic involvement
- C. Duloxetine 60 mg daily for its dual analgesic and antidepressant properties
- D. Topical lidocaine 5% patch applied over the most painful bone metastasis site

183. A 65-year-old man with advanced colon cancer on hospice develops a new pathologic fracture of his left proximal humerus after minimal trauma. He has severe arm pain and cannot use his left arm. His ECOG before the fracture was 2, and his expected survival is 5 months. Which of the following management approaches is most appropriate?

- A. Conservative management with a sling, ice, and increased opioids as definitive treatment
- B. Palliative radiation to the fracture site as the sole intervention without surgical stabilization
- C. Emergency amputation of the left arm to eliminate the source of pain
- D. Surgical fixation (intramedullary nailing) followed by palliative radiation — appropriate given his adequate performance status and months of expected survival, restoring arm function and preventing the complications of a non-healing pathologic fracture

184. A palliative care physician is caring for a 55-year-old woman with advanced breast cancer who develops neuropathic pain in her feet from chemotherapy-induced peripheral neuropathy. She is on tamoxifen. Her physician considers adding an adjuvant analgesic. Which of the following agents should be AVOIDED because of a significant interaction with tamoxifen?

- A. Gabapentin, which has no CYP interactions and is safe with tamoxifen
- B. Pregabalin, which is renally excreted without hepatic metabolism
- C. Duloxetine, which inhibits CYP2D6 — the enzyme that converts tamoxifen to its active metabolite endoxifen — potentially reducing tamoxifen's anticancer efficacy
- D. Nortriptyline at low doses for its combined neuropathic pain and sleep benefits

185. A 68-year-old woman with advanced lung cancer on hospice tells her hospice chaplain, "I don't believe in God. I'm not religious. I don't need spiritual care." Which of the following is the most appropriate response by the chaplain?

- A. "Spiritual care isn't only about God or religion — it can address questions of meaning, purpose, legacy, and how you want to spend your remaining time. I'm here to support whatever matters most to you, not to impose beliefs. Would it help to talk about what gives your life meaning?"
- B. "I'll note in your chart that you declined spiritual care and won't visit again."
- C. "Everyone needs spiritual care at the end of life. Let me explain why you should reconsider."
- D. "Perhaps you should re-examine your beliefs given your current situation."

186. A 72-year-old man with advanced heart failure on hospice has been declining over two weeks. Yesterday, he suddenly became alert, ate a full meal, engaged in animated conversation with his family, and asked to sit in his chair for the first time in weeks. Today he is unresponsive again, and his vital signs have deteriorated. This phenomenon is best described as which of the following?

- A. Evidence of clinical recovery requiring immediate hospital transfer for cardiac re-evaluation
- B. A terminal rally (terminal lucidity) — a transient, poorly understood period of unexpected improvement that may occur hours to days before death, not indicating recovery but rather a temporary phenomenon typically followed by rapid decline
- C. A medication interaction causing temporary stimulation of the central nervous system
- D. Spontaneous resolution of a concurrent infection that was suppressing his alertness

187. A 60-year-old man with advanced pancreatic cancer on hospice is on morphine for pain. He is also taking sertraline 100 mg daily for depression. Tramadol 50 mg every 6 hours is added for a new pain complaint. Within 36 hours, he develops agitation, diaphoresis, tremor, diarrhea, clonus, and a temperature of 38.9°C. After discontinuing all serotonergic agents, which of the following is the specific pharmacologic antidote?

- A. Naloxone 0.4 mg IV for opioid-mediated serotonergic excess
- B. Dantrolene for malignant hyperthermia-like muscle rigidity
- C. Bromocriptine as a dopamine agonist to counterbalance serotonin excess

D. Cyproheptadine (a serotonin antagonist) administered orally at 12 mg initially followed by 4–8 mg every 6 hours — the specific antidote for serotonin syndrome

188. A 65-year-old woman with advanced ovarian cancer on hospice develops malignant bowel obstruction. She is not a surgical candidate. Medical management with octreotide, glycopyrrolate, and dexamethasone has been optimized, but she continues to vomit approximately 500 mL daily. A venting gastrostomy tube has been placed. She asks whether she can still eat and drink. Which of the following is the most accurate response?

- A. She must remain NPO indefinitely because any oral intake will worsen the obstruction
- B. She may eat full meals because the gastrostomy bypasses the obstructed bowel entirely
- C. She may eat and drink small amounts for pleasure — food enters the stomach and is experienced (taste, texture, social ritual), then drains through the gastrostomy rather than passing into the obstructed bowel
- D. She may drink clear liquids only because solid food will obstruct the gastrostomy tube

189. A 70-year-old man with advanced COPD on hospice is experiencing worsening dyspnea despite morphine 15 mg oral every 4 hours. His oxygen saturation is 92% on 2 L/min nasal cannula. He is anxious and using accessory muscles. The hospice nurse has administered his scheduled morphine, but he remains significantly dyspneic with prominent anxiety. Based on pharmacologic management of dyspnea, which of the following is the most appropriate next intervention?

- A. Add lorazepam 0.5–1 mg sublingually to address the anxiety-breathlessness cycle that opioid alone is not adequately controlling
- B. Increase supplemental oxygen to 5 L/min because his saturation needs to be above 95%
- C. Switch from morphine to hydromorphone because it has superior dyspnea efficacy profiles
- D. Administer nebulized albuterol as the sole additional intervention for his worsening symptoms

190. A hospice social worker is conducting a bereavement follow-up with the 50-year-old son of a patient who died three months ago. He reports that he has returned to work, is sleeping adequately, and is functioning in most areas of his life. However, he says, "Sometimes I'll be driving and suddenly I'm sobbing. It comes out of nowhere." He asks, "Is this normal?" Which of the following is the most appropriate response?

- A. "That's not normal at three months. I'd like to refer you for psychiatric evaluation."

B. "Grief often comes in waves — sudden surges of intense emotion triggered by unexpected reminders. This is completely normal and does not indicate something is wrong. The fact that you're functioning well between the waves shows healthy adaptation. There is no timeline for grief."

C. "You should try to avoid driving until the episodes stop to prevent an accident."

D. "The sudden episodes suggest a panic disorder that requires medication management."

191. A 66-year-old man with advanced pancreatic cancer on hospice has been on morphine for pain. He develops new confusion, hallucinations, and myoclonic jerks. His morphine dose has been stable for six weeks. His creatinine has risen from 1.0 to 3.8 mg/dL over the past two weeks from dehydration-related renal impairment. The most likely cause of his neurotoxicity and the most appropriate management are which of the following?

A. Delirium from progression of brain metastases requiring whole-brain radiation therapy

B. Serotonin syndrome from an unidentified drug interaction requiring cyproheptadine

C. A new psychiatric condition requiring haloperidol for symptom management

D. Accumulation of morphine's active metabolite M6G due to declining renal function — rotate to fentanyl, which has no active metabolites

192. A 74-year-old woman with end-stage heart failure on hospice has been managed with furosemide 80 mg daily. Her dyspnea has worsened over one week. New findings include bilateral crackles, JVD, weight gain of 4 kg, and worsening edema. The hospice physician considers adding metolazone. Which of the following best explains the pharmacologic rationale?

A. Metolazone has direct bronchodilating properties that improve airflow in heart failure patients

B. Metolazone is a stronger loop diuretic than furosemide and should replace it entirely

C. Sequential nephron blockade — metolazone blocks sodium reabsorption at the distal convoluted tubule while furosemide blocks it at the loop of Henle, overcoming the compensatory distal reabsorption that limits furosemide's effectiveness when used alone

D. Metolazone provides positive inotropic support that directly improves cardiac contractility

193. A hospice physician is reviewing the death certificate of a patient who died of complications of advanced Alzheimer's disease. The covering physician listed Part I, Line a: "Cardiac arrest" — Line b: "Natural causes." This cause-of-death entry is problematic because of which of the following?

- A. Both entries are non-specific mechanisms or descriptors — "cardiac arrest" is the universal mechanism of death and "natural causes" is a manner of death, not a cause. The certificate should trace the disease process: aspiration pneumonia (Line a), dysphagia (Line b), Alzheimer's disease (Line c).
- B. "Natural causes" is always acceptable as a cause of death for patients over age 70
- C. "Cardiac arrest" is appropriate for all deaths but should be followed by the cardiac rhythm
- D. The certificate needs only one line — listing the underlying diagnosis alone is sufficient

194. A 60-year-old woman with advanced breast cancer on hospice has been on opioids for bone pain. She develops new severe pain at a single site in her right femoral neck. Imaging reveals a large lytic metastasis with 60% cortical destruction. She is ambulatory with a walker, has ECOG 2, and expected survival of 4 months. In addition to pain management and palliative radiation, which intervention should be strongly considered?

- A. Strict bed rest to prevent any weight-bearing on the affected extremity
- B. Prophylactic surgical fixation of the proximal femur — a lytic lesion with >50% cortical destruction in a weight-bearing bone carries high fracture risk, and prophylactic fixation prevents the catastrophic complication of pathologic fracture in a patient with adequate performance status and meaningful survival
- C. A hip brace to provide external structural support during ambulation
- D. Systemic bisphosphonate therapy as the sole bone-targeted intervention

195. A 71-year-old man with advanced lung cancer on hospice is being transitioned from IV morphine 4 mg/hour (96 mg/24 hours IV) in the hospital to oral morphine SR at home. Using the standard 3:1 oral-to-parenteral ratio, what is the correct total 24-hour oral morphine dose?

- A. 96 mg oral morphine per day (same number as the IV dose, using a 1:1 conversion)
- B. 32 mg oral morphine per day (dividing the IV dose by 3 instead of multiplying)
- C. 192 mg oral morphine per day (doubling the IV dose using a 2:1 ratio)
- D. 288 mg oral morphine per day ( $96 \text{ mg IV} \times 3 = 288 \text{ mg oral}$ , using the correct 3:1 oral-to-parenteral ratio)

196. A 63-year-old man with advanced colon cancer on hospice develops a UTI causing dysuria, suprapubic pain, and low-grade fever. He is alert, comfortable at baseline, and enjoying daily visits from

his grandchildren. His prognosis apart from the UTI is estimated at 3 months. His goals are comfort-focused. Which of the following approaches to antibiotic therapy is most appropriate?

- A. Transfer to the hospital for IV antibiotics and urine culture with sensitivities
- B. Withhold all antibiotics because infections should not be treated in hospice patients
- C. Treat with an appropriate oral antibiotic because the UTI is causing distressing symptoms (dysuria, pain, fever) that antibiotics can relieve — consistent with comfort goals in a patient with months of remaining life and preserved quality of life
- D. Prescribe a prophylactic antibiotic regimen to prevent all future UTIs

197. A hospice nurse visits a 79-year-old woman with end-stage COPD. The patient's husband, her sole caregiver, appears exhausted — he has lost weight, has dark circles under his eyes, and says, "I'll be fine — just take care of her." The nurse is concerned about caregiver burnout. Which of the following is the most appropriate initial intervention?

- A. Gently express concern about the husband's well-being, normalize the difficulty of caregiving, explore whether respite care or additional support services would help, and communicate the observation to the interdisciplinary team — because caregiver collapse directly threatens the patient's care plan
- B. Focus exclusively on the patient because the husband is not enrolled in hospice
- C. Arrange for mandatory hospitalization of the husband for medical evaluation
- D. Document the observation without any action and reassess at the next visit in two weeks

198. A 65-year-old woman with advanced ovarian cancer on hospice develops bilateral ureteral obstruction from retroperitoneal tumor progression. Her creatinine has risen from 1.0 to 5.5 mg/dL. She is becoming confused and nauseated from uremia. Her oncologist proposes nephrostomy tubes. The palliative care team is consulted. The decision about nephrostomy placement should be guided primarily by which of the following?

- A. The technical feasibility of the procedure as determined by interventional radiology
- B. The patient's values, goals, and understanding of what nephrostomy tubes would and would not accomplish — they would relieve the obstruction and extend life but would not treat the cancer, and she would live with the tubes for whatever time remains

- C. Whether the patient's insurance will cover the procedure under the hospice benefit
- D. The creatinine level, because levels above 5 mg/dL mandate intervention regardless of patient goals

199. A 72-year-old man with advanced COPD on hospice develops acute respiratory distress. He is on morphine for dyspnea, supplemental O<sub>2</sub> at 2 L/min, and has a POLST indicating comfort measures only. His SpO<sub>2</sub> is 76%, respiratory rate 34, and he is using accessory muscles with severe anxiety. Which of the following is the most appropriate immediate intervention?

- A. Call 911 for emergency intubation because his oxygen is critically low
- B. Withhold morphine because respiratory depression could worsen his oxygenation
- C. Administer only supplemental oxygen and observe for 60 minutes before any pharmacologic intervention
- D. Administer a morphine bolus for dyspnea, add midazolam for anxiety, increase supplemental oxygen (he IS hypoxemic), position upright, and direct a fan to his face

200. A 58-year-old man with advanced gastric cancer on hospice has been on opioid therapy. He develops severe, intractable constipation despite maximal conventional laxative therapy (senna 4 tablets BID, PEG 17 g daily, and bisacodyl suppositories). He has not had a bowel movement in 11 days. Rectal exam shows no impaction, and there are no signs of obstruction. Which of the following is the most appropriate next step?

- A. Discontinue all opioids and switch to non-opioid pain management
- B. Add a high-fiber diet with increased fluid intake as the definitive next step
- C. Start a peripherally acting mu opioid receptor antagonist (PAMORA) such as methylnaltrexone 12 mg SC — blocking GI mu receptors without crossing the blood-brain barrier, reversing peripheral opioid-induced constipation without affecting central analgesia
- D. Perform manual disimpaction even though the rectal exam showed no impaction

201. A 67-year-old man with end-stage liver disease on hospice has been taking morphine for pain. His hepatic function has deteriorated significantly (bilirubin increasing from 4 to 15 mg/dL). He has become more somnolent despite no change in his morphine dose. His GFR remains normal at 70 mL/min. The most critical medication adjustment is which of the following?

- A. Reduce the morphine dose because worsening hepatic function reduces first-pass metabolism and increases oral morphine bioavailability — more drug reaches systemic circulation at the same prescribed dose
- B. Increase the morphine dose because his increased somnolence indicates undertreated pain
- C. Switch to meperidine, which is safer in hepatic impairment than morphine
- D. Discontinue all medications immediately because liver failure makes all drugs unpredictable

202. A 74-year-old woman with advanced breast cancer on hospice has been stable. She develops a new, painful DVT in her left leg with significant swelling. Her prognosis is approximately 2 months. She is on comfort measures. Which of the following is the most appropriate approach?

- A. Anticoagulation is never appropriate in hospice patients regardless of clinical indication
- B. Treat with subcutaneous LMWH if the DVT is causing distressing symptoms (pain, swelling) that anticoagulation could relieve — the decision is based on whether treatment serves the patient's comfort goals, not on a blanket policy
- C. Transfer to the hospital for IV heparin and duplex ultrasound confirmation
- D. Apply compression stockings as the sole treatment without any pharmacologic therapy

203. A hospice program is being surveyed by Medicare. The auditors note that the program has been billing for General Inpatient Care (GIP) for a patient admitted to an inpatient unit for "caregiver exhaustion and respite." This billing is incorrect because of which of the following?

- A. GIP can only be provided in acute care hospitals, not in inpatient hospice units
- B. GIP requires a minimum stay of 7 days that was not met in this case
- C. GIP billing requires pre-authorization from Medicare that was not obtained
- D. GIP is for acute symptom management requiring inpatient-level care — caregiver exhaustion is the indication for Inpatient Respite Care (IRC), not GIP, and billing the higher-reimbursement GIP for a respite need constitutes incorrect billing

204. A 60-year-old man with advanced colon cancer on hospice has been on morphine SR 60 mg every 12 hours with morphine IR 20 mg every 3 hours PRN. He uses approximately 5 breakthrough doses daily. His total 24-hour oral morphine intake is 220 mg. He can no longer swallow. The hospice team converts to a continuous subcutaneous hydromorphone infusion. Step 1:  $220 \text{ mg oral morphine} \div 3 = 73.3 \text{ mg parenteral morphine}$ . Step 2:  $73.3 \text{ mg parenteral morphine} \div 10 \times 1.5 = 11 \text{ mg parenteral}$

hydromorphone. Step 3: Apply 25% cross-tolerance reduction:  $11 \times 0.75 = 8.25$  mg SC hydromorphone per 24 hours. What is the correct hourly SC hydromorphone infusion rate?

- A. Approximately 1.4 mg/hour (33.6 mg/24 hours — no cross-tolerance reduction applied)
- B. Approximately 0.69 mg/hour (16.5 mg/24 hours — using an incorrect conversion)
- C. Approximately 0.34 mg/hour ( $8.25 \text{ mg} \div 24 \text{ hours}$  — the correct calculation)
- D. Approximately 0.17 mg/hour (4.1 mg/24 hours — applying an additional unnecessary 50% reduction)

205. A 71-year-old man with advanced lung cancer on hospice is being transitioned from IV hydromorphone 0.8 mg/hour (19.2 mg IV per 24 hours) to oral hydromorphone at home. Using the equianalgesic table (parenteral hydromorphone 1.5 mg = oral hydromorphone 7.5 mg), what is the correct total 24-hour oral hydromorphone dose?

- A. 96 mg oral hydromorphone per day ( $19.2 \text{ mg IV} \times 5 = 96 \text{ mg oral}$ , using the correct 5:1 parenteral-to-oral ratio for hydromorphone)
- B. 19.2 mg oral hydromorphone per day (same number as the IV dose — an incorrect 1:1 conversion)
- C. 57.6 mg oral hydromorphone per day (using an incorrect 3:1 ratio instead of 5:1)
- D. 38.4 mg oral hydromorphone per day (doubling the IV dose using an incorrect 2:1 ratio)

206. A palliative care team is debriefing after a difficult case. A hospice nurse says, "I knew the patient needed sedation earlier, but the attending wanted to try another medication first. I felt like my hands were tied." This experience is best described as which of the following?

- A. Compassion fatigue from empathic engagement with the patient's suffering
- B. Moral distress — the nurse knew what she believed was the ethically right action but felt unable to carry it out due to hierarchical barriers, causing anguish and a sense of powerlessness
- C. Professional burnout from administrative overwork and excessive documentation burden
- D. Normal job dissatisfaction that will resolve spontaneously without intervention

207. A 63-year-old woman with advanced pancreatic cancer on hospice has been on morphine for pain and dexamethasone 8 mg daily for appetite stimulation and hepatic capsule pain. After three weeks, she

develops proximal muscle weakness — difficulty rising from a chair and climbing stairs. Neurologic examination is otherwise unchanged. This presentation is most consistent with which complication?

- A. Progression of brain metastases causing new motor cortex involvement
- B. Spinal cord compression from a new epidural metastasis requiring emergent MRI
- C. Deconditioning from immobility that will resolve with physical therapy alone
- D. Steroid-induced proximal myopathy — a dose-dependent and duration-dependent adverse effect of chronic corticosteroid therapy affecting hip and shoulder girdle muscles

208. A hospice interdisciplinary team is discussing a newly enrolled patient. The spiritual assessment reveals that the patient identifies as Hindu. The patient's wife mentions that when the time comes, they would like specific arrangements for the body after death. Which of the following cultural practices is most consistent with Hindu tradition regarding post-death care?

- A. The body should be embalmed immediately and a multi-day visitation period should be arranged
- B. The body should not be left alone between death and burial, with burial occurring within 24 hours
- C. Hindu tradition generally favors cremation, and family members may wish to wash and prepare the body themselves, with specific prayers and rituals performed before and during cremation
- D. The body should be placed in a plain pine casket without any cosmetic preparation

209. A 68-year-old man with advanced prostate cancer has been enrolled in hospice for seven months. He is entering his fourth benefit period (the second 60-day period). Which of the following is required for this recertification that distinguishes it from the first two 90-day periods?

- A. A face-to-face encounter with a hospice physician or nurse practitioner within 30 days before the start of the benefit period — required beginning with the third benefit period (first 60-day period) and all subsequent periods
- B. A mandatory psychiatric evaluation confirming the patient's acceptance of continued hospice enrollment
- C. A second opinion from an independent palliative care specialist
- D. Submission of a formal written appeal to Medicare justifying the extended enrollment

210. A 55-year-old woman with advanced sarcoma on hospice asks her hospice physician, "I've been thinking about what happens after I'm gone. Will anyone help my husband? He doesn't cope well alone." Which of the following is the most accurate description of the hospice program's bereavement obligation?

- A. "Hospice services end when you pass away. Your husband will need to arrange his own support."
- B. "Our hospice program is required to provide bereavement support to your family for at least 13 months after your death — including periodic contacts, memorial events, support groups, and referrals for counseling. We can also help you prepare your husband now through conversations and planning."
- C. "Bereavement services are only available if your husband pays out of pocket."
- D. "We provide a single bereavement phone call at 30 days after death."

211. A 72-year-old man with advanced colon cancer on hospice is experiencing worsening pain from diffuse bone metastases. His current regimen includes morphine and gabapentin. His palliative care physician recommends adding a bone-targeted agent. Which of the following agents acts through RANKL inhibition to reduce osteoclast-mediated bone resorption?

- A. Zoledronic acid, a bisphosphonate that inhibits osteoclasts through the mevalonate pathway
- B. Calcitonin, which directly inhibits osteoclasts through calcitonin receptor binding
- C. Pamidronate, a first-generation bisphosphonate administered intravenously
- D. Denosumab — a monoclonal antibody that blocks RANKL (receptor activator of nuclear factor kappa-B ligand), preventing osteoclast differentiation and activation

212. A 64-year-old woman with advanced breast cancer on hospice has been on morphine SR 90 mg every 12 hours. She develops a new vertebral compression fracture at T12 causing severe localized pain. Her overall pain is rated 9/10 at the fracture site. Her ECOG is 2 and expected survival is 5 months. In addition to optimizing her opioid, which intervention would most likely provide rapid, targeted relief for her compression fracture?

- A. Epidural corticosteroid injection at the T12 level
- B. External thoracolumbar brace worn during all waking hours
- C. Vertebroplasty or kyphoplasty — providing pain relief in 70–90% of patients within 24–72 hours through stabilization of the fractured vertebral body with polymethylmethacrylate cement

D. Palliative radiation (single fraction 8 Gy) as the sole intervention, with expected onset of relief in 2–4 weeks

213. A 70-year-old man with advanced lung cancer on hospice tells his hospice nurse, "I want to go to my granddaughter's recital next weekend. Can I do that?" The nurse's response should reflect which core hospice philosophy?

- A. "Absolutely — let's plan your medications, arrange any equipment you need, and make sure you're comfortable for the trip. Living fully while on hospice is exactly what we're here to support."
- B. "It's too risky for you to travel. You should stay home for your safety."
- C. "You'll need written medical clearance from your physician before leaving the house."
- D. "Attending events is not recommended because it could interfere with your hospice nursing schedule."

214. A 58-year-old woman with advanced cervical cancer on hospice has been having severe perineal and rectal pain from tumor invasion of the sacral nerve roots. She is on high-dose opioids with gabapentin. Her pain management specialist recommends a ganglion impar block. Which of the following best describes the anatomic target and indication for this block?

- A. The ganglion impar is located at the T12-L1 level and transmits upper abdominal visceral pain
- B. The ganglion impar is a solitary retroperitoneal ganglion located anterior to the sacrococcygeal junction, transmitting visceral afferent pain from the perineum, rectum, anus, and vulva — making it the targeted block for her perineal and rectal cancer pain
- C. The ganglion impar is a cervical sympathetic ganglion indicated for complex regional pain syndrome
- D. The ganglion impar is located in the lumbar plexus and is the target for lower extremity neuropathic pain

215. A hospice program is reviewing its volunteer utilization. The current rate is 4.2% of total patient care hours. Under Medicare Conditions of Participation, which of the following is the regulatory significance of this finding?

- A. The program is compliant because the Medicare volunteer minimum is 3%
- B. The program exceeds the volunteer requirement because there is no specific minimum
- C. The program is compliant because volunteer utilization is recommended but not mandatory

D. The program is below the Medicare-mandated minimum of 5% of total patient care hours and must increase volunteer services to achieve regulatory compliance

216. A 66-year-old woman with advanced pancreatic cancer on hospice develops symptomatic hypercalcemia (corrected calcium 14.8 mg/dL) with confusion, severe constipation, nausea, and polyuria. Her family attributed her worsening symptoms to disease progression. The hospice physician's decision about whether to treat the hypercalcemia should be guided primarily by which of the following?

- A. The specific calcium level, because all levels above 14 mg/dL mandate treatment regardless of goals
- B. Whether Medicare will reimburse the treatment costs under the hospice per diem
- C. The patient's goals of care — if she wants symptom relief, treating the hypercalcemia may significantly improve multiple symptoms simultaneously; if her goals are comfort-only and treatment would merely prolong dying, supportive symptom management alone may be more appropriate
- D. Whether her oncologist approves the treatment plan before the hospice physician can proceed

217. A palliative care physician is meeting with a 68-year-old man with advanced gastric cancer. The patient asks, "How much time do I have?" Based on communication best practices regarding prognostic disclosure, which of the following responses is most appropriate?

- A. "I wish I could give you an exact number, but single-point estimates are almost always wrong. What I can tell you is that I think we're looking at weeks to a few months. I want to use that information to help you plan for the things that matter most. What's on your mind?"
- B. "Based on statistical averages, you have exactly 4.2 months to live."
- C. "I can't tell you anything because medicine cannot predict the future."
- D. "You have plenty of time. Don't worry about timelines."

218. A 73-year-old man with advanced COPD on hospice has progressive dysphagia and can no longer swallow his oral morphine SR 60 mg every 12 hours (120 mg oral per day). The hospice team converts to a continuous subcutaneous morphine infusion. Using the standard 3:1 oral-to-parenteral ratio, what is the correct SC morphine infusion rate?

- A. 5 mg/hour (120 mg SC per day — no conversion applied)

- B. Approximately 1.7 mg/hour (40 mg SC per day — using the correct 3:1 ratio:  $120 \div 3 = 40$  mg SC/day, divided by 24 hours)
- C. Approximately 0.83 mg/hour (20 mg SC per day — using an incorrect 6:1 ratio)
- D. Approximately 3.3 mg/hour (80 mg SC per day — using an incorrect 1.5:1 ratio)

219. A 62-year-old man with end-stage renal disease who discontinued dialysis nine days ago is now obtunded. His family notices intermittent jerking movements of his hands and arms. The hospice nurse explains these are most likely uremic myoclonus. Which medication is most appropriate for symptomatic treatment?

- A. Phenytoin loading dose for presumed epileptic seizure activity
- B. Haloperidol 2 mg SC every 6 hours for dopaminergic suppression of involuntary movements
- C. Morphine dose increase to sedate the patient through the myoclonic episodes
- D. Lorazepam 0.5–1 mg sublingually every 6–8 hours or clonazepam 0.5 mg BID — benzodiazepines effectively suppress uremic myoclonus without anticonvulsant loading

220. A 71-year-old woman with advanced breast cancer on hospice is experiencing opioid-induced pruritus that began after her last morphine dose increase. She has no liver disease, her bilirubin is normal, and her renal function is intact. Which of the following is the most likely mechanism and most appropriate initial management?

- A. Cholestatic pruritus from occult biliary obstruction requiring ERCP
- B. Uremic pruritus from undiagnosed renal failure requiring gabapentin
- C. Opioid-induced pruritus from histamine release and/or central mu receptor activation — managed by opioid rotation to fentanyl (which has minimal histamine-releasing properties) or addition of a low-dose antihistamine
- D. A primary dermatologic condition requiring skin biopsy and dermatology consultation

221. A 74-year-old man with end-stage heart failure on hospice has a mechanical mitral valve and has been on warfarin for 18 years. His prognosis is estimated at 4 weeks. Unlike patients anticoagulated for atrial fibrillation alone (where short-term stroke risk is negligible), why does his anticoagulation warrant continuation?

- A. Mechanical valves without anticoagulation carry significant, immediate risk of valve thrombosis and systemic embolization — the short-term risk of discontinuing warfarin is much higher with a mechanical valve than with atrial fibrillation alone
- B. Warfarin has anxiolytic properties that improve comfort in end-stage heart failure
- C. Medicare mandates continuation of warfarin for all patients with mechanical valves on hospice
- D. Stopping warfarin causes immediate mechanical valve failure requiring emergency replacement

222. A 60-year-old man with advanced melanoma on pembrolizumab develops acute fatigue, hypotension (BP 70/40 mmHg), nausea, and hypoglycemia. His morning cortisol is undetectable. This presentation is most consistent with which immune-related adverse event?

- A. Immune-related hepatitis causing impaired gluconeogenesis and secondary hypoglycemia
- B. Immune-related hypophysitis or adrenalitis causing adrenal insufficiency — requiring urgent IV hydrocortisone 100 mg for hemodynamic stabilization and ongoing hormone replacement
- C. Immune-related colitis with severe dehydration causing the hypotension
- D. Immune-related myocarditis causing cardiogenic shock

223. A 65-year-old woman with advanced ovarian cancer on hospice has refractory ascites from peritoneal carcinomatosis (NOT portal hypertension). She has an indwelling peritoneal catheter. After a drainage session removing 4 liters, she asks whether she needs albumin replacement. Based on the mechanism of her ascites, which of the following is most accurate?

- A. Albumin is always required after draining more than 3 liters regardless of the mechanism
- B. Albumin must be infused before drainage, not after, in all types of ascites
- C. Albumin replacement is mandatory for all paracenteses performed at home
- D. Albumin replacement is NOT routinely required for malignant ascites from peritoneal carcinomatosis — it is standard practice for cirrhotic (portal hypertensive) ascites where post-paracentesis circulatory dysfunction is a specific concern, but the mechanism and hemodynamic consequences differ in malignant ascites

224. A 72-year-old man with advanced prostate cancer on hospice develops new-onset hypercalcemia (corrected calcium 15.2 mg/dL) with confusion, constipation, polyuria, and worsening bone pain. His family attributed the symptoms to disease progression. After IV saline hydration is initiated, which

medication provides the most sustained reduction in calcium through inhibition of osteoclast-mediated bone resorption?

- A. Calcitonin 4 IU/kg SC every 12 hours for its rapid onset of calcium-lowering effect
- B. Furosemide 40 mg IV for forced calciuresis to excrete calcium through the kidneys
- C. Zoledronic acid 4 mg IV over 15 minutes — a bisphosphonate that inhibits osteoclast activity, with onset at 24–48 hours, nadir at 4–7 days, and duration of 2–4 weeks
- D. Oral phosphate supplementation to bind calcium in the GI tract and reduce absorption

225. A palliative care physician has been caring for a 61-year-old woman with advanced lung cancer for six months. The patient dies at home with her family present. At the next team meeting, the physician notices she feels tearful when reviewing the patient's chart. She has been thinking about this patient more than others and feels a wave of sadness when she drives past the patient's street. This response is most accurately described as which of the following?

- A. Normal clinician grief — a natural, healthy response to the loss of a patient with whom the physician had a meaningful therapeutic relationship, reflecting emotional engagement rather than pathology
- B. Professional burnout requiring a leave of absence from clinical duties
- C. A boundary violation indicating inappropriate personal attachment
- D. Compassion fatigue indicating the physician has exceeded her emotional capacity for hospice work

226. A hospice aide reports that during a recent visit, the 80-year-old patient's son, who is the primary caregiver, appeared intoxicated and was "rough" when repositioning the patient. The patient has new bruising on her upper arms in a pattern consistent with handgrip marks. The aide reports this to the hospice nurse. Which of the following is the most appropriate next step?

- A. Document the observation and reassess at the next scheduled visit in one week
- B. Assess the patient for elder abuse — conduct a private patient assessment, look for additional signs, and if abuse is suspected, report to adult protective services as required by mandatory reporting laws
- C. Confront the son about his drinking and threaten legal consequences
- D. Attribute the bruising to the patient's anticoagulant therapy without further investigation

227. A 68-year-old woman with advanced breast cancer enrolled in hospice develops new seizures from previously undiagnosed brain metastases. CT reveals two lesions with significant edema. Dexamethasone is administered. An anticonvulsant is needed. Given her polypharmacy (opioids, antiemetics, corticosteroids), which anticonvulsant is most appropriate?

- A. Phenytoin, which has well-established efficacy and a long clinical track record
- B. Carbamazepine, which provides additional neuropathic pain benefit
- C. Valproic acid, which has broad-spectrum anticonvulsant activity
- D. Levetiracetam — minimal hepatic metabolism, few drug interactions, available in IV and liquid formulations, making it the ideal anticonvulsant for palliative care patients on multiple medications

228. A hospice nurse is visiting a 77-year-old man with end-stage heart failure. His wife asks, "How will I know when he's getting close to the end? I want to make sure the family is here." Which combination of signs, when present together, most reliably indicates death within 72 hours?

- A. Increased appetite, improved alertness, and temporary rally in functional status
- B. Stable vital signs with persistent peripheral edema unchanged from baseline
- C. Cheyne-Stokes respirations, mottling extending above the knees, mandibular breathing, decreased urine output, and loss of radial pulse — the convergence of multiple end-of-life signs
- D. New onset of hypertension and tachycardia from compensatory cardiovascular stress response

229. A 60-year-old woman with advanced pancreatic cancer on hospice tells her physician, "I feel like a burden to my family. They would be better off without me." Her PHQ-9 score is 19. She denies active suicidal ideation. Which of the following is the most important clinical implication of her statement?

- A. Perceived burdensomeness is strongly associated with desire for hastened death and is a red flag for major depression — her PHQ-9 of 19 (moderately severe) confirms depression requiring treatment, which may significantly reduce both the perceived burdensomeness and any emerging desire for hastened death
- B. This is a normal expression of grief that requires no clinical intervention
- C. Her statement reflects an accurate assessment of her family's situation and no action is needed
- D. She should be referred to social work for caregiver support planning without addressing her depression

230. A 72-year-old woman with end-stage COPD on hospice asks her hospice physician, "If things get really bad at the end, will you be able to keep me comfortable? I'm terrified of suffocating." The most effective response combines which communication elements?

- A. "We have very effective medications to make sure you don't feel short of breath — morphine for the sensation of air hunger and medications for anxiety. Our team will be with you through this, and keeping you comfortable is our promise. Can you tell me more about what frightens you most?"
- B. "Don't worry about that now. Let's focus on today and deal with that when it comes."
- C. "I can guarantee you will feel absolutely nothing when the time comes."
- D. "Suffocation is a risk, and I can't promise you won't experience some discomfort."

### **Practice Exam 3: Answer Key and Full Answer Explanations**

1. D — Humoral hypercalcemia of malignancy (HHM) is caused by tumor secretion of PTHrP (parathyroid hormone-related peptide), which mimics PTH at the bone and kidney, causing increased bone resorption and renal calcium reabsorption. HHM accounts for approximately 80% of malignant hypercalcemia and is particularly associated with squamous cell carcinomas. The elevated PTHrP with high calcium confirms this mechanism.

2. B — Biliary stenting to relieve intractable cholestatic pruritus is a symptom-directed intervention that may be appropriate within the hospice plan of care. The pruritus — not the jaundice itself — is the target. The decision weighs the expected symptom relief against procedural risk, burden, and the patient's goals. "Comfort measures" does not mean "no procedures" — it means every intervention is evaluated based on whether it serves the patient's comfort.

3. C — Pre-medication with opioids and benzodiazepines is the most critical clinical preparation for ventilatory support withdrawal. With an FVC of 18%, this patient cannot sustain independent breathing — removal of BiPAP will lead to progressive hypercapnia, respiratory failure, and death. The patient must be comfortable and free from air hunger throughout this process. No court order is required; the patient has capacity and the right to refuse any life-sustaining treatment.

4. A — This response addresses the daughter's emotional distress (fear of starvation), provides accurate medical information (decreased appetite is natural), explains the physiology (the body cannot use nutrition effectively), warns against potential harm (forced feeding causes aspiration and discomfort),

offers practical guidance (ice chips for comfort), and reframes the family's role (presence matters more than calories).

5. D — When opioid alone fails to adequately control dyspnea and prominent anxiety persists, adding a benzodiazepine addresses the anxiety-breathlessness cycle. Dyspnea triggers anxiety, which worsens the perception of breathlessness, which increases anxiety further. Lorazepam 0.5–1 mg SL breaks this cycle. His SpO<sub>2</sub> of 93% is above the hypoxemia threshold (90%), so oxygen increase is unlikely to provide additional benefit over the current 2 L/min.

6. C — A lytic metastasis with 55% cortical destruction in the proximal femur (a weight-bearing bone) carries high risk of pathologic fracture. In a patient with ECOG 2 and 5-month expected survival, prophylactic surgical fixation prevents the catastrophic complication of femoral fracture — which would cause severe pain, immobility, and potentially fatal complications. Palliative radiation follows surgery to prevent tumor regrowth at the fixation site.

7. A — The standard oral-to-intrathecal morphine conversion ratio is 300:1. For this patient: 650 mg oral ÷ 300 = approximately 2.2 mg intrathecal morphine per day. This 300-fold dose reduction dramatically decreases systemic side effects (sedation, confusion, myoclonus) while maintaining or improving analgesia — the primary rationale for intrathecal drug delivery in refractory pain with intolerable side effects.

8. B — A recommendation that integrates the patient's stated values ("comfortable," "time with family") with the medical reality (chemotherapy unlikely to help, would mean more hospital time) is the hallmark of shared decision-making. The physician is not making the decision for the patient (paternalism) but is offering a value-concordant recommendation that the patient can accept, modify, or reject. This distinguishes shared decision-making from both paternalism and pure consumer-driven models.

9. D — The patient has decision-making capacity, has experienced the clinical event (syncope from VT), and has reaffirmed his decision to maintain ICD deactivation with full understanding of the consequences. His autonomous, informed decision must be honored. The family's distress is understandable and should be addressed with empathy, but the family cannot override a capacitated patient's medical decisions. Symptomatic management of VT (if causing discomfort) can be offered consistent with comfort goals.

10. C — This patient meets all Patchell trial criteria for surgical decompression followed by radiation: single-level compression (T5), good pre-event performance status (ECOG 1), and expected survival exceeding three months (9 months). The trial demonstrated that surgery plus radiation preserved or

restored ambulatory function in significantly more patients than radiation alone. Despite her current 3/5 weakness, urgent surgical intervention offers the best chance of functional recovery.

11. A — Gabapentin has demonstrated efficacy for uremic pruritus in multiple randomized trials. Uremic pruritus involves dysregulation of neural pruritoceptive pathways, and gabapentin modulates these through voltage-gated calcium channel blockade. Dosing must be significantly reduced in renal impairment (GFR 7 mL/min) — starting at 100 mg after each period of activity. Antihistamines are generally ineffective for uremic pruritus because the mechanism is not histamine-mediated.

12. B — In catastrophic hemorrhage in a comfort-focused patient, the highest immediate priority is rapid sedation to eliminate conscious terror. Midazolam 5–10 mg IM or IV provides sedation within minutes. The bleeding source (tumor erosion into a major vessel) cannot be controlled in the home setting, and the patient is on comfort measures with a DNR. Preventing the patient from experiencing conscious horror during a fatal hemorrhage is the most important clinical action.

13. D — Using the 3:1 oral-to-parenteral ratio:  $300 \text{ mg oral morphine} \div 3 = 100 \text{ mg SC morphine per 24 hours}$ . As a continuous infusion:  $100 \text{ mg} \div 24 \text{ hours} = \text{approximately } 4.2 \text{ mg/hour}$ . No cross-tolerance reduction is applied because this is the same drug (morphine) being converted to a different route, not a rotation to a different opioid. Breakthrough doses should be calculated at 10–15% of the total daily dose.

14. C — Nausea that worsens with head movement and position changes is the hallmark of vestibular-mediated emesis, transmitted through H1 (histaminergic) and muscarinic receptors from the vestibular apparatus to the vomiting center. Meclizine (an antihistamine) and scopolamine (an anticholinergic) target these specific receptors. The temporal pattern (triggered by movement, not meals or medication timing) distinguishes vestibular nausea from CTZ, gastroparesis, or cortical mechanisms.

15. A — Incident (movement-evoked) breakthrough pain is pain that occurs predictably with a specific triggering activity — in this case, weight-bearing on a femur with a lytic metastasis. It is distinguished from spontaneous breakthrough pain (occurs without a trigger) and end-of-dose failure (occurs before the next scheduled dose). Management includes pre-emptive dosing with rapid-onset opioids before the anticipated activity and consideration of palliative radiation or prophylactic fixation to address the underlying structural cause.

16. B — The constellation of progressive mottling extending toward the knees, weakening peripheral pulses, decreasing urine output, and increasing somnolence represents the convergence of multiple end-of-life signs indicating active dying. When three or more of these signs cluster, death is likely within

hours to a few days. The family should be informed with compassion, comfort measures should be optimized, and family presence facilitated.

17. D — Patients on stable, chronic opioid doses who have developed tolerance to sedating effects and are not experiencing drowsiness, dizziness, or cognitive impairment may be able to drive safely. There is no absolute prohibition on driving while taking opioids. The assessment is functional — can the patient demonstrate adequate alertness and reaction time? The physician should counsel honest self-assessment before driving.

18. C — Before advancing to PAMORAs (which are indicated for OIC refractory to conventional laxatives), conventional laxative therapy must be fully optimized. This patient's regimen is subtherapeutic — adding an osmotic agent (PEG) and increasing the stimulant laxative dose represents standard optimization. PAMORAs are reserved for patients who have failed adequate conventional therapy, not for patients whose conventional regimen has not been maximized.

19. A — This woman has multiple converging risk factors for complicated bereavement: prior psychiatric history (anxiety disorder), high dependency on the deceased ("he was my everything"), limited social support (recent relocation, no local network), and absence at the time of death. The convergence of these factors places her at high risk and warrants proactive, enhanced bereavement support — more frequent contacts, early counseling referral, and close monitoring for development of complicated grief.

20. B — Dexamethasone is a well-recognized cause of persistent hiccups, and the temporal relationship (hiccups during dexamethasone therapy) supports this etiology. Initial management involves reducing the dose or switching to an alternative corticosteroid (methylprednisolone may cause fewer hiccups). Baclofen 5 mg three times daily is the most commonly used pharmacologic treatment for hiccups, acting through GABA-B receptor agonism to suppress the hiccup reflex arc.

21. D — Metoclopramide is absolutely contraindicated in complete mechanical bowel obstruction because its prokinetic effect (5-HT<sub>4</sub> agonism) increases peristaltic contractions against a fixed obstruction, worsening colicky pain and risking bowel perforation. Management of nausea in complete MBO relies on agents without prokinetic activity: haloperidol (CTZ), ondansetron (5-HT<sub>3</sub>), dexamethasone (reduces edema), and anticholinergics (reduce secretions).

22. A — Naming a surrogate is necessary but insufficient. The DPAHC is only effective if the surrogate understands the patient's values, goals, fears, and specific treatment preferences. A surrogate who does not know what the patient would want is forced to make decisions based on their own values —

substituting their judgment rather than exercising substituted judgment. The patient-surrogate conversation is what transforms a legal document into an effective clinical tool.

23. C — Cheyne-Stokes respiration — cyclical crescendo-decrescendo breathing with central apneic pauses — is a normal part of the dying process caused by delayed chemoreceptor feedback in the setting of declining brainstem function. The pauses do not indicate suffocation, air hunger, or distress. The family should be reassured that this breathing pattern is expected and that the patient is not suffering from it.

24. B — In severe hepatic impairment, first-pass metabolism of oral morphine is reduced. Normally, approximately 70% of oral morphine is metabolized during first passage through the liver. When hepatic function is severely impaired, more of the oral dose passes through to systemic circulation, increasing bioavailability from approximately 30% to potentially 50–70%. This effectively doubles or triples the patient's drug exposure at the same prescribed oral dose, necessitating dose reduction.

25. D — Multiple randomized controlled trials have demonstrated that a single fraction of 8 Gy provides pain relief equivalent to multi-fraction regimens (30 Gy/10 fractions) for uncomplicated painful bone metastases, with response rates of 60–80%. Single-fraction radiation minimizes treatment burden — one visit instead of 10–25 — which is particularly important for patients with limited prognosis or reduced performance status. This is one of the most heavily tested evidence points on the HPM exam.

26. A — Handgrip-pattern bruising on the upper arms of a vulnerable patient with advanced dementia, living with a person with substance use history, raises significant concern for physical elder abuse. Health care providers are mandatory reporters of suspected elder abuse in all 50 states. The nurse should conduct a private assessment, look for additional signs, document findings, and report to adult protective services if abuse is suspected.

27. C — Morphine-6-glucuronide (M6G) is a potent active metabolite of morphine that is renally excreted. When renal function declines (creatinine 0.9 to 3.4), M6G accumulates and causes neurotoxicity: confusion, hallucinations, myoclonus, and potentially respiratory depression. Management requires opioid rotation to fentanyl (no active metabolites) or dose reduction with close monitoring. M3G is neuroexcitatory but lacks analgesic activity — it contributes to myoclonus but not sedation.

28. B — Rifaximin used for hepatic encephalopathy symptom management (reducing confusion and agitation) is related to the terminal diagnosis and is covered under the hospice per diem as a comfort-directed medication. The distinction between "disease-directed" and "symptom management" is based

on clinical purpose, not drug category. A medication that directly relieves distressing symptoms of the terminal illness is a comfort medication regardless of its classification.

29. D — The temporal pattern — constant nausea beginning shortly after opioid initiation that is gradually improving — is classic for CTZ-mediated opioid-induced nausea. Opioids stimulate D2 receptors in the CTZ, triggering nausea. Tolerance to this effect typically develops within 3–7 days. A short course of a CTZ-targeted antiemetic (haloperidol 0.5–1 mg every 8 hours) bridges the tolerance development period. The improving trajectory is the key diagnostic clue.

30. A — The pattern of recurrent aspiration pneumonia (four episodes in 12 months) reflects the natural trajectory of advanced dementia with progressive dysphagia. Each antibiotic course treats the acute infection but does not change the underlying aspiration risk. The most important consideration is whether continued treatment serves comfort goals (relieving distressing symptoms like fever and dyspnea) or merely prolongs the dying process without improving quality of life.

31. C — Prophylactic anticonvulsants are NOT recommended for brain metastasis patients who have not had seizures. Randomized trials have failed to demonstrate a reduction in first-seizure incidence, while the medications carry significant side effect risks — sedation, cognitive impairment, drug interactions, rash, and hepatotoxicity. Anticonvulsant therapy should be initiated only after a seizure has occurred, not prophylactically.

32. B — Lorazepam is the appropriate comfort kit medication for acute seizure management. Benzodiazepines are first-line for active seizures. In the home setting without IV access, lorazepam can be administered sublingually (if the patient can safely receive it without aspiration risk) or rectally. The hospice nurse should provide clear instructions to the family on medication administration, patient positioning (side-lying for airway protection), and environmental safety.

33. D — Cannabis use should be disclosed to all prescribers because it has clinically significant interactions with opioids, benzodiazepines, and other CNS depressants (additive sedation, respiratory depression), can affect drug metabolism through CYP enzyme interactions, and may influence treatment decisions. Full medication disclosure — including cannabis, supplements, and over-the-counter products — is essential for safe, coordinated care.

34. A — For a non-verbal patient with advanced dementia and a high PAINAD score on no analgesics, the evidence-based first step is a scheduled analgesic trial with acetaminophen — the safest first-line agent. If PAINAD scores improve after 48–72 hours, pain was the likely cause of the behavioral

distress. If scores do not improve, the differential broadens. Starting with morphine is premature and carries more risk. Invasive diagnostics are inconsistent with the patient's overall care goals.

35. C — Duloxetine potently inhibits CYP2D6, the enzyme that converts tamoxifen to its active metabolite endoxifen. Concurrent use reduces endoxifen levels, potentially decreasing tamoxifen's anticancer efficacy. This is a clinically significant interaction. Gabapentin and pregabalin have no CYP interactions and are safe alternatives for neuropathic pain in tamoxifen-treated patients.

36. D — This presentation — agitation, clonus, hyperreflexia, diaphoresis, hyperthermia — following addition of linezolid (an MAOI) to morphine (which has weak serotonin reuptake inhibition) is classic serotonin syndrome. The distinguishing feature from NMS is clonus — present in serotonin syndrome, absent in NMS. Both conditions share hyperthermia, altered mental status, and autonomic instability, but clonus and hyperreflexia reliably differentiate serotonin syndrome.

37. B — Anticholinergic agents (glycopyrrolate, atropine, scopolamine) block muscarinic receptors in secretory glands, reducing NEW secretion production. However, they cannot dry EXISTING secretions that have already accumulated. The noise from previously pooled secretions persists until they are reabsorbed, drain by gravity with repositioning, or evaporate. The family should be reassured that the patient is typically unaware of the sound.

38. A — A patient may revoke hospice at any time to pursue disease-directed therapy, including clinical trial participation. Revocation is voluntary, does not require justification, and is reversible — the patient may re-elect hospice in the future if she chooses. This preserves patient autonomy and ensures hospice enrollment never becomes a barrier to accessing treatments the patient values.

39. C — Medication management during hospital-to-home hospice transitions requires systematic reconciliation: convert IV medications to appropriate oral or SC routes (IV morphine → oral morphine SR or SC infusion), continue symptom-directed medications (furosemide for dyspnea, morphine for breathlessness), de-prescribe preventive medications with no short-term benefit (atorvastatin), and ensure adequate opioid supply at home. This is the most critical patient safety intervention during care transitions.

40. D — Immune-related thyroiditis progressing to hypothyroidism is among the most common endocrine irAEs of checkpoint inhibitors. The markedly elevated TSH (55) with undetectable free T4 confirms primary hypothyroidism. Treatment is levothyroxine replacement. Unlike more severe irAEs (pneumonitis, colitis, hepatitis), hypothyroidism typically does not require immunotherapy discontinuation and is managed with ongoing hormone replacement.

41. B — Hepatic capsule pain is caused by distension of Glisson's capsule by expanding liver metastases. Dexamethasone directly reduces hepatic inflammation and peritumoral edema, decreasing capsular stretch and providing targeted relief. It is one of the most effective non-opioid interventions for this specific pain syndrome. NSAIDs provide general anti-inflammatory effect but less targeted capsular decompression than corticosteroids.

42. A — A pathologic fracture of the proximal femoral shaft in a patient with ECOG 2 and 5-month expected survival warrants surgical fixation (intramedullary nailing) followed by palliative radiation. Without fixation, the fracture in tumor-weakened bone will not heal, leaving the patient immobile and in severe pain. Surgical fixation restores mobility, relieves pain, and prevents complications of immobility. Radiation follows to prevent tumor regrowth.

43. C — Asking "What is your understanding of what has been happening?" before delivering a medical update is the "Perception" step of SPIKES applied to family meetings. It reveals what the family already knows, identifies gaps and misconceptions, and provides a natural starting point for the clinical update. This prevents information overload, allows the physician to build on existing understanding, and ensures the update addresses the family's actual informational needs.

44. D — Rapid large-volume drainage (3 liters in 25 minutes) causes hemodynamic instability from vasovagal response and intravascular fluid redistribution. The preventive counseling is critical: future drainages should be performed more slowly (over 60–90 minutes), with the patient in a reclined position, and with smaller, more frequent drainages if tolerated. This practical education for home drainage is essential for safe ongoing management.

45. B — Living fully — pursuing meaningful activities, maintaining relationships, and attending important life events — is a core principle of hospice and palliative care. Hospice patients are not confined to their homes. The team should actively facilitate meaningful experiences by planning medication schedules, arranging portable equipment, coordinating care at the destination, and helping the patient participate in the events that matter most to him.

46. A — An indwelling pleural catheter (IPC) is the most appropriate long-term management for recurrent malignant pleural effusion. IPCs allow intermittent home drainage by the patient or family, eliminating repeated clinic-based thoracenteses. This significantly reduces treatment burden while maintaining effective symptom control. Diuretics are ineffective for malignant effusions, and surgical pleurodesis carries significant procedural risk.

47. C — Conservative renal management (without dialysis) follows a generally gradual trajectory: progressive fatigue, nausea, and drowsiness from uremic toxin accumulation, leading to obtundation and eventually coma over days to weeks. Death typically results from hyperkalemia or uremic encephalopathy. The process is manageable with palliative care — symptom-directed treatment of nausea, pruritus, myoclonus, and restlessness — and is often described as relatively peaceful.

48. D — "Cardiac arrest" is the mechanism common to virtually all deaths and provides no information about why the patient died. The death certificate should specify the disease process: the immediate cause (respiratory failure), the contributing condition (metastatic lung cancer), and the underlying cause. The underlying cause on the lowest completed line is used for public health statistics and must reflect the actual disease.

49. B — Tolerance to opioid-induced constipation does NOT develop — it is the only major opioid side effect for which tolerance does not occur. If the prophylactic laxative is discontinued, constipation will recur regardless of how long the patient has been on a stable opioid dose or how well the bowels have been functioning. This is one of the most important and most frequently tested pharmacologic facts about opioid therapy.

50. A — The calculation yields 6.75 mg SC hydromorphone per 24 hours. Dividing by 24 hours:  $6.75 \div 24 = 0.28$  mg/hour. This multi-step conversion — oral morphine → parenteral morphine → parenteral hydromorphone → cross-tolerance reduction → hourly rate — is the most complex equianalgesic calculation on the exam and tests understanding of each conversion step.

51. C — Modern ICDs combine defibrillator (shock) and pacemaker (pacing) functions that can be independently programmed. Deactivating shocks while maintaining pacing is standard practice, preserving pacing that prevents symptomatic bradycardia while eliminating painful, futile shocks during the dying process. This selective approach respects the patient's specific preferences about which device functions to maintain.

52. D — The superior hypogastric plexus transmits visceral afferent pain from pelvic organs including the uterus, cervix, bladder, and rectum. A superior hypogastric plexus block provides targeted analgesia for pelvic visceral pain, potentially reducing systemic opioid requirements by 50–80%. The celiac plexus serves upper abdominal organs, and the ganglion impar serves only the perineal region — neither targets the pelvic viscera.

53. B — A competent patient has the absolute, constitutionally protected right to refuse any medical treatment — including nutrition and hydration. This right was affirmed in the Cruzan decision and is

supported by virtually all medical ethics organizations. The daughter's threats of litigation do not change the clinical or legal obligation to honor the patient's informed, capacitated refusal. The team should provide compassionate support to the daughter while clearly documenting the patient's decision.

54. A — The single most important prognostic factor in MSCC is the patient's neurologic function at treatment initiation. Patients still ambulatory at treatment have >80% chance of remaining ambulatory; those paraplegic have <10% chance of recovery. This is why MSCC is a true emergency — every hour of delay risks irreversible neurologic damage. This patient's bilateral weakness (3/5) but preserved some function argues for urgent intervention.

55. C — This patient IS hypoxemic (SpO<sub>2</sub> 87%, below the 90% threshold). The evidence against supplemental oxygen applies specifically to non-hypoxemic patients. In documented hypoxemia, supplemental oxygen may provide genuine dyspnea relief by improving tissue oxygen delivery. The flow rate should be increased and titrated to comfort — the goal is symptom relief, not achieving a specific saturation target.

56. D — A pathologic fracture of the humerus in a patient with ECOG 2 and 4-month expected survival warrants surgical fixation followed by radiation. Without fixation, the fracture in tumor-weakened bone will not heal. Surgical fixation restores arm function, relieves pain, and is followed by radiation to prevent tumor regrowth. Conservative management condemns the patient to months of unnecessary suffering with a non-functional arm.

57. B — Hypercalcemia (14.6 mg/dL) explains this patient's confusion (CNS calcium effects), nausea (GI motility impairment), constipation (smooth muscle dysfunction), and polyuria (impaired renal concentrating ability) simultaneously. It represents a potentially reversible cause of multi-symptom deterioration. Treating it — if consistent with goals — could improve all four symptom domains at once. The family's attribution of symptoms to "disease progression" would leave a reversible cause untreated.

58. A — Hospice patients are not confined to their homes. Travel is permitted and should be actively supported. The hospice team can coordinate care, ensure adequate medication supply, arrange for hospice services at the destination if needed, and plan for contingencies. Facilitating meaningful experiences — like visiting a sick sister one last time — embodies the core palliative care principle of living fully during serious illness.

59. C — Fentanyl is the preferred opioid in significant renal impairment because it is metabolized by CYP3A4 to inactive norfentanyl — no active metabolites accumulate. Morphine (M6G), oxycodone (oxymorphone), and codeine (morphine) all produce active metabolites that accumulate in renal failure.

Meperidine is never appropriate due to its neurotoxic metabolite normeperidine. This is one of the most heavily tested opioid pharmacology concepts.

60. D — A high proportion of patients dying within 7 days of hospice enrollment (38%) and a short median length of stay (13 days) indicate late referrals. Patients are being referred too close to death to benefit from the full range of hospice services. Late referral deprives patients and families of weeks to months of symptom management, psychosocial support, spiritual care, and caregiver preparation — all of which require time to provide effectively.

61. B — Mixed somatic-neuropathic pain requires a multimodal strategy targeting both mechanisms. The opioid addresses the somatic component (aching from tumor expansion), while an adjuvant analgesic (gabapentin or duloxetine) targets the neuropathic component (burning, shooting from nerve compression). Neither agent alone optimally addresses both mechanisms. This combination approach is more effective and often allows lower opioid doses.

62. A — The communication priority is to respond to the patient's emotion before providing clinical information. She is experiencing acute grief and fear about her children's future. In this moment, medical information cannot be heard. The physician should acknowledge her pain, validate her concern about her children, and allow silence before any discussion of next steps. Emotional acknowledgment precedes information delivery.

63. C — The clinical findings (new crackles, JVD, 4+ edema, 5 kg weight gain) clearly indicate decompensated heart failure with volume overload causing the dyspnea. Increasing furosemide (and/or adding metolazone for diuretic synergy) directly addresses the symptom by reducing the pulmonary congestion. This is a comfort-directed intervention — treating the treatable cause of dyspnea is more effective than opioids alone for fluid overload-related breathlessness.

64. D — Lactulose directly relieves distressing symptoms of hepatic encephalopathy (confusion, agitation) and is therefore consistent with comfort-focused goals. The distinction between "disease-directed" and "symptom management" is based on clinical purpose, not drug category. Discontinuing lactulose would allow encephalopathy to worsen, causing significant suffering. A medication that provides direct symptom relief is a comfort medication regardless of its pharmacologic classification.

65. B — Methylphenidate is the pharmacologic agent with the strongest evidence for cancer-related fatigue. It provides rapid onset (hours to days), allowing quick assessment of benefit. Standard dosing starts at 5 mg morning and noon, titrated upward. Afternoon/evening doses are avoided to prevent

insomnia. Modafinil has mixed evidence. Dexamethasone provides short-term benefit but is not sustained. His hemoglobin of 10.8 is unlikely to be the primary cause of fatigue.

66. A — The fifth episode of aspiration pneumonia in 14 months reflects the relentless trajectory of advanced dementia with progressive dysphagia. The discussion should address whether continued treatment changes the trajectory (it does not — aspiration risk persists), whether the current infection is causing distressing symptoms that antibiotics could relieve (fever, dyspnea), and whether treatment serves comfort goals or merely extends the dying process. This is a values-based conversation, not a protocol-driven decision.

67. D — Acute adrenal insufficiency (undetectable cortisol, hypotension, hypoglycemia) in a patient on checkpoint inhibitor therapy is consistent with immune-related hypophysitis or adrenalitis. This is a life-threatening irAE requiring urgent IV hydrocortisone 100 mg for hemodynamic stabilization, followed by ongoing hormone replacement. The combination of weakness, hypotension, and hypoglycemia is the classic presentation.

68. C — Complicated Grief Treatment (CGT) is the most evidence-supported psychotherapy for prolonged grief disorder. It is a 16-session manualized protocol combining elements of interpersonal psychotherapy, CBT, and motivational interviewing. Response rates of 50–70% in randomized trials significantly exceed those of standard IPT or antidepressant medication alone. The widow's symptoms — persistent yearning, avoidance, functional impairment at 15 months — meet DSM-5-TR criteria for PGD.

69. B — The magnet provides only temporary suspension of ICD shock delivery. Once the device representative has permanently reprogrammed the ICD to disable shocks, the magnet is no longer needed and can be safely removed. The distinction between temporary magnet suspension and permanent device reprogramming is important — families need to understand that the reprogramming is definitive and the magnet was only a bridge.

70. A — Methadone uniquely prolongs the QTc interval among commonly used opioids, creating risk of torsades de pointes — a potentially fatal ventricular arrhythmia. This risk necessitates ECG monitoring at baseline, after dose stabilization, and periodically during therapy. Risk factors include high doses, concomitant QTc-prolonging medications, and electrolyte disturbances (hypokalemia, hypomagnesemia). No other routinely used opioid carries this specific cardiac risk.

71. D — This patient meets all criteria for brain death: known cause of irreversible brain damage (massive stroke), absence of all brainstem reflexes, absent respiratory drive on apnea testing, and

confirmatory study showing no intracranial circulation. Under the Uniform Determination of Death Act, he is legally dead. The "heartbeat" and "chest movement" the family observes are mechanically maintained by the ventilator. Compassionate communication with the family is essential.

72. C — Nausea worsened by movement and position change is the hallmark of vestibular-mediated emesis, transmitted through H1 (histaminergic) and muscarinic receptors. Meclizine (H1 antagonist) and scopolamine (muscarinic antagonist) target these specific receptors. This positional pattern distinguishes vestibular nausea from CTZ-mediated (constant), gastroparesis (postprandial), and cortical (anticipatory) mechanisms.

73. B — Gabapentin is entirely renally excreted without hepatic metabolism. When GFR declines (creatinine 1.0 to 2.9), gabapentin accumulates, causing dose-dependent toxicity: sedation, confusion, ataxia, and myoclonus. While morphine also warrants attention (M6G accumulation), gabapentin's exclusively renal excretion makes it the most urgently dose-dependent medication. The dose should be reduced by 50–75% and titrated based on symptoms.

74. A — The chaplain's role in spiritual distress is pastoral presence and exploration — not theological correction, pharmacologic treatment, or psychiatric referral. Spiritual distress ("Why is God punishing me?") is a genuine crisis of meaning and faith that requires compassionate exploration, validation, and engagement with the patient's own faith tradition on her own terms. The chaplain facilitates the patient's spiritual process without imposing predetermined answers.

75. D — The decision to treat hypercalcemia in hospice is individualized based on goals. If the patient wants symptom relief, treating the hypercalcemia may significantly improve confusion, nausea, and polyuria. If goals are comfort-only and treatment would prolong dying without improving quality of life, supportive symptom management alone may be appropriate. The calcium level alone does not mandate treatment — the patient's goals are the decisive factor.

76. C — Medicare Conditions of Participation for hospice require the interdisciplinary team to include, at minimum: a physician, a registered nurse, a social worker, and a pastoral or other counselor. This is the regulatory minimum. Additional disciplines (CNAs, therapists, pharmacists, volunteers) are part of comprehensive hospice care but are not specified as mandatory IDT members in the Medicare conditions.

77. B — With a 3-week prognosis and no prior stroke, the absolute risk reduction from continued warfarin is negligible. Annual stroke risk for atrial fibrillation is approximately 5% — over three weeks, the absolute risk is extremely small. Meanwhile, bleeding risk continues and may increase as the patient

declines. Discontinuing warfarin is appropriate when the time horizon for benefit is too short to justify ongoing risks and monitoring burden.

78. A — Postprandial nausea with early satiety, bloating, and delayed gastric emptying in a patient on opioids is classic for gastroparesis. Metoclopramide is the ideal agent because it combines CTZ-directed antiemetic activity (D2 antagonism) with prokinetic activity (5-HT<sub>4</sub> agonism) that directly improves gastric motility. This dual mechanism treats both the nausea and its underlying cause. Bowel obstruction must be excluded before prescribing.

79. B — Docusate monotherapy has been shown in studies to be no more effective than placebo for preventing constipation. Docusate is a stool softener with minimal laxative activity — it is insufficient as a standalone agent. The stimulant component (senna) is the active laxative in the senna-docusate combination and should not be discontinued.

80. C — Multiple RCTs demonstrate that a single fraction of 8 Gy provides pain relief equivalent to multi-fraction regimens for uncomplicated bone metastases, with response rates of 60–80%. Single-fraction treatment minimizes burden — one visit instead of 10–25. This evidence is consistently reproduced across trials and is one of the most tested radiation facts on the HPM exam.

81. A — Mechanical heart valves without anticoagulation have significant, immediate risk of valve thrombosis and systemic embolization — a risk that is much higher than the stroke risk from atrial fibrillation alone. Unlike AF anticoagulation (where short-term risk is negligible), the risk with mechanical valves is substantial even over weeks. Warfarin should generally be continued as long as the patient takes oral medications.

82. B — This response identifies the breathing pattern (Cheyne-Stokes), normalizes it as part of dying, addresses the family's primary fear (suffocation), provides reassurance (not in distress), and explicitly advises against calling 911. Anticipatory guidance about breathing changes should ideally be provided before they occur, but this response effectively manages the acute family crisis.

83. D — Severe, bloody diarrhea on ipilimumab with negative infectious workup is classic immune-related colitis. Ipilimumab carries the highest GI irAE risk among checkpoint inhibitors. Treatment requires prompt systemic corticosteroids (prednisone 1–2 mg/kg/day), immunotherapy hold, and consideration of infliximab for steroid-refractory cases. Loperamide alone is insufficient for moderate-to-severe immune colitis.

84. C — This response leads with empathy ("I can hear how frightened and angry you are"), validates the emotion ("that makes complete sense — you love your father"), and opens exploration ("what worries you most?"). Responding to the emotion underlying the anger — rather than the surface-level demand — is the most effective way to de-escalate conflict and begin productive dialogue. Data and medical arguments are ineffective until the emotion is acknowledged.

85. A — This patient meets all Patchell trial criteria: single-level compression (T10), good pre-event ECOG (2), and expected survival exceeding three months (5 months). Surgery plus radiation demonstrated superior neurologic outcomes to radiation alone. Despite his current deficits (weakness, urinary retention), urgent surgical intervention offers the best chance of preserving or restoring neurologic function.

86. B — The convergence of mottling extending to mid-thighs, absent radial pulse, anuria, and mandibular breathing represents advanced organ system failure consistent with active dying. When multiple end-of-life signs cluster, death is likely within hours to days. Clear communication with the family, optimization of comfort measures, and facilitation of family presence and final wishes are the clinical priorities.

87. D — This scenario illustrates the common dilemma of a medication (dexamethasone) that provides benefit for one symptom (hepatic capsule pain) while causing another (hiccups). The optimal approach balances both: reduce dexamethasone to the lowest effective dose for pain, or switch corticosteroids, while simultaneously treating the hiccups with baclofen. Neither complete discontinuation (accepting return of pain) nor ignoring the hiccups (accepting impaired quality of life) is optimal.

88. B — Acute pulmonary edema on comfort measures should be managed by addressing both the symptom (morphine for dyspnea) AND the treatable cause (increased furosemide for volume overload). Treating dyspnea with morphine alone without addressing the fluid overload provides suboptimal symptom relief. Diuresis directly reduces pulmonary congestion — the cause of the dyspnea — and is a comfort-directed intervention.

89. A — Adolescents understand the gravity of a parent's terminal illness but may lack mature coping strategies. Anticipatory grief in teenagers commonly manifests as denial ("my mom is fine"), avoidance (refusing to visit), and behavioral acting out (school problems). These behaviors represent attempts to manage overwhelming emotions, not conduct disorder or inadequate communication. Supportive intervention — not disciplinary action — is appropriate.

90. B — Worsening hepatic function reduces first-pass metabolism of oral morphine, increasing its systemic bioavailability. At the same prescribed dose, more morphine reaches systemic circulation, effectively increasing drug exposure. The confusion attributed to "disease progression" may be partially or wholly iatrogenic from increased morphine levels. Dose reduction with close monitoring is the most critical adjustment. Meperidine is never appropriate in palliative care.

91. D — Fentanyl is the preferred opioid in significant renal impairment because it is metabolized by CYP3A4 to inactive norfentanyl — no active metabolites accumulate. This patient's confusion and myoclonus on oxycodone with declining GFR (50 to 14) strongly suggest accumulation of oxycodone's active metabolite oxymorphone. Rotating to fentanyl eliminates the metabolite accumulation that is causing her neurotoxicity.

92. C — The convergence of increasing somnolence, cessation of oral intake, irregular breathing, and mottling represents the cluster of end-of-life signs that, when present together, indicate death is likely within hours to a few days. No single sign is reliable alone, but the clustering of multiple signs provides high prognostic confidence. This information should be communicated compassionately to prepare the family.

93. A — With a 2-week prognosis and no stroke history, the absolute stroke risk reduction from warfarin is negligible while bleeding risk continues. The burden of INR monitoring, dietary restrictions, and drug interactions is not justified by the minimal expected benefit. Discontinuation is appropriate. This contrasts with anticoagulation for mechanical heart valves, where short-term risk of valve thrombosis is immediate and substantial.

94. B — Pain is a potent respiratory stimulant that counteracts opioid respiratory depression. When the celiac plexus block eliminated the pain, the respiratory stimulant effect was removed, unmasking the respiratory-depressant effect of the current opioid dose — which was appropriate when pain was present but is now relatively excessive. This is a well-recognized clinical scenario requiring immediate opioid dose reduction after successful interventional pain procedures.

95. D — Using the 300:1 oral-to-intrathecal ratio:  $700 \text{ mg} \div 300 =$  approximately 2.3 mg intrathecal morphine per day. This 300-fold dose reduction dramatically reduces systemic side effects while maintaining or improving analgesia. The 300:1 ratio is the standard conversion and one of the most tested numbers on the HPM exam. Using incorrect ratios (10:1, 30:1, 100:1) would produce dangerously high intrathecal doses.

96. C — Medicare requires hospice programs to provide bereavement support for at least 13 months after the patient's death. This includes periodic contacts, memorial events, support groups, and referrals for counseling. The physician can also help the patient prepare his family now through legacy work, conversations about wishes, and advance care planning for his family's own health decisions.

97. A — This patient has severe hypoxemia (SpO<sub>2</sub> 78%) AND acute dyspnea on comfort measures. The comprehensive approach includes: morphine bolus for dyspnea, midazolam for the anxiety component, increased supplemental oxygen (she IS hypoxemic — below 90%), upright positioning, and a fan to the face. Unlike non-hypoxemic patients, this patient may benefit from oxygen because she has documented hypoxemia. Intubation violates her POLST.

98. B — Involuntary muscle jerks (myoclonus) in a patient on chronic opioid therapy are classic opioid-induced myoclonus — a dose-dependent neurotoxic effect. Management follows a stepwise approach: opioid dose reduction if pain allows, opioid rotation (especially to fentanyl, which lacks neuroexcitatory metabolites), and/or symptomatic treatment with clonazepam or lorazepam. The normal creatinine makes metabolite accumulation less likely, suggesting a direct dose-dependent effect.

99. D — Albumin replacement after large-volume paracentesis is standard for cirrhotic (portal hypertensive) ascites to prevent post-paracentesis circulatory dysfunction — a hemodynamic complication specific to portal hypertension. Malignant ascites from peritoneal carcinomatosis has a different pathophysiology and does not require routine albumin replacement. This distinction saves the patient unnecessary intervention.

100. C — Clinician grief — sadness and emotional response to the loss of a patient with whom the physician had a meaningful relationship — is a normal, healthy response reflecting emotional engagement, not pathology. It indicates that the physician formed a genuine therapeutic connection. Clinician grief is expected in palliative care and is not burnout (organizational/workload-driven), compassion fatigue (empathic absorption of suffering), or a boundary violation (inappropriate personal attachment).

101. A — The parenteral-to-oral conversion ratio for hydromorphone is 1:5 (1.5 mg parenteral = 7.5 mg oral). Converting from IV to oral: 12 mg IV  $\times$  5 = 60 mg oral hydromorphone per 24 hours. The 5:1 ratio for hydromorphone is distinct from morphine's 3:1 ratio and is a high-yield calculation tested frequently on the HPM exam.

102. B — A terminal rally is a transient, poorly understood period of unexpected improvement that may occur hours to days before death. The patient becomes alert, engaged, and may request food or conversation after a period of declining responsiveness. Vital signs remain abnormal and the trajectory

is unchanged. Families should be gently informed that this does not indicate recovery and may be a precious, final opportunity for connection before rapid decline.

103. D — Worsening liver function reduces first-pass metabolism of oral morphine, increasing systemic bioavailability. At the same prescribed oral dose, more drug reaches the systemic circulation, producing higher drug levels and increasing sedation. This is one of the most important pharmacokinetic considerations in palliative care: unchanged dose does not mean unchanged drug exposure when hepatic function is declining.

104. C — Caregiver health directly impacts the patient's care plan — if the husband collapses, the patient's home-based hospice care collapses with him. The nurse should express concern, normalize caregiving difficulty, explore whether respite care or additional support would help, and ensure the IDT addresses caregiver health as a care plan priority. The husband is not the patient, but his well-being is essential to the patient's care.

105. A — This patient has failed optimized conventional laxative therapy (stimulant at maximum dose plus osmotic agent). The next step is a PAMORA — methylnaltrexone, naloxegol, or naldemedine — which blocks mu receptors in the GI tract without crossing the blood-brain barrier, reversing the peripheral constipating effect of opioids without affecting central analgesia. PAMORAs are specifically indicated for OIC refractory to conventional laxatives.

106. B — The appropriate response to a MAID request (in a non-legal state) combines exploration of the driving factors, assessment for depression, optimization of symptom management, and honest disclosure that MAID is not available in her state. The physician should continue to address the suffering underlying the request — which may reflect fear of uncontrolled symptoms, loss of control, depression, or existential distress — rather than simply refusing to discuss the topic.

107. D — Lactulose serves a dual purpose in this patient: it treats hepatic encephalopathy by acidifying colonic contents and reducing ammonia absorption (primary indication), and it functions as an osmotic laxative that may help counteract opioid-induced constipation (beneficial secondary effect). The two medications complement rather than conflict with each other.

108. C — Topical metronidazole 0.75% gel is the most effective intervention for fungating wound malodor. The odor is produced by anaerobic bacteria colonizing the wound surface, and metronidazole specifically targets anaerobes. The dramatic odor reduction — often within 24–48 hours — can transform the patient's social experience and enable family presence that was previously impossible due to the smell.

109. A — Evidence suggests that hearing may be the last sense preserved during the dying process. EEG and fMRI studies have shown cortical responses to auditory stimuli in unresponsive patients. The most helpful and honest response encourages the family to continue speaking, holding hands, and saying whatever they need to say — guidance that is consistently associated with better bereavement outcomes.

110. B — The nephrostomy decision must be guided by the patient's values, goals, and informed understanding of what the procedure would and would not accomplish. Nephrostomy tubes would relieve the obstruction and extend life — but would not treat the cancer, and she would live with the tubes for whatever time remains. This is a goals-of-care conversation requiring informed consent that integrates medical facts with the patient's values about quality versus quantity of life.

111. D — Levetiracetam is the optimal anticonvulsant in palliative care polypharmacy because it has no significant hepatic metabolism (avoids CYP interactions with opioids, corticosteroids, and antiemetics), is available in IV and liquid formulations (essential when swallowing ability declines), and has a favorable side effect profile. Phenytoin and carbamazepine have extensive CYP interactions that complicate complex medication regimens.

112. C — The correct death certificate format traces the causal chain: aspiration pneumonia (immediate cause, Line a) resulted from dysphagia (Line b), which was caused by Parkinson's disease (underlying cause, Line c). "Cardiac arrest" is a mechanism, not a cause. "Old age" and "natural causes" are unacceptable. The underlying cause on the lowest line is used for vital statistics.

113. A — A scheduled acetaminophen trial is the evidence-based first step for suspected pain in non-verbal dementia patients. Acetaminophen is the safest first-line agent. If PAINAD scores improve after 48–72 hours, the behavioral distress was likely pain-related. If scores don't improve, the differential broadens to non-pain causes. This structured approach avoids both unnecessary opioid exposure and failure to treat pain.

114. B — Dexamethasone is a well-recognized cause of persistent hiccups, with a clear temporal relationship to this patient's symptom onset (started three weeks ago). The mechanism likely involves central diaphragmatic stimulation. Management includes dose reduction, corticosteroid switching, or adding baclofen for hiccup-specific treatment.

115. D — Medicare Conditions of Participation require hospice programs to utilize volunteers to provide a minimum of 5% of total patient care hours. At 3%, this program is below the regulatory minimum and must increase volunteer services. This is a compliance issue that can trigger deficiency findings during Medicare surveys.

116. C — The comprehensive response to a MAID request (in a legal state) includes deeper exploration of motivations, thorough depression assessment, confirmation of understanding of legal requirements, and either participation or referral to a willing provider. Even in legal states, the clinical response should not be immediate prescription — the request deserves thorough exploration to ensure all suffering has been addressed and the decision is truly informed.

117. A — Metolazone blocks sodium reabsorption at the distal convoluted tubule, while furosemide blocks it at the loop of Henle. This "sequential nephron blockade" overcomes the compensatory distal sodium reabsorption that develops when loop diuretics are used alone (diuretic resistance). The combination produces diuretic synergy that is significantly more effective than increasing the loop diuretic dose alone.

118. B — Treatment of DVT in hospice should be individualized based on whether the DVT is causing distressing symptoms. This patient's pain and swelling are significantly impairing her comfort. LMWH can relieve these symptoms and is administered subcutaneously at home without hospital transfer. The decision is not categorical ("never treat" or "always treat") but is guided by whether treatment serves the patient's comfort goals.

119. D — Agonal breathing is a brainstem reflex — irregular, gasping breaths that do not represent conscious respiratory effort. The patient is not aware of these movements and is not experiencing air hunger or suffering. Clear, compassionate explanation that these gasps are expected and do not indicate distress is essential for reducing the profound anxiety families experience when witnessing agonal breathing.

120. C — Everything this widow describes — daily crying, missing her husband, reaching for him — is within the range of normal grief at six months. There is no timeline for grief. The fact that she is also resuming activities (book club, church, socializing) indicates healthy adaptation. Normalizing her experience and countering the social pressure to "get over it" is the most therapeutic response. Referral for grief counseling is not indicated for normal grief.

121. A — Beginning with the third benefit period (the first 60-day period), Medicare requires a face-to-face encounter with a hospice physician or nurse practitioner within 30 days before the start of the benefit period. This requirement ensures that patients remaining on hospice beyond six months are personally assessed to confirm continued eligibility. The face-to-face encounter was not required during the first two 90-day benefit periods.

122. B — When a patient can no longer swallow tablets but can still take small liquid volumes, each medication should be systematically converted to the most appropriate non-tablet formulation. Morphine SR converts to concentrated oral morphine solution (20 mg/mL), gabapentin converts to liquid, dexamethasone converts to SC injectable, and senna converts to liquid or suppository. Crushing morphine SR is dangerous because it destroys the sustained-release mechanism, potentially delivering the entire dose at once.

123. D — Immune-related thyroiditis progressing to hypothyroidism is one of the most common endocrine irAEs from checkpoint inhibitors. The markedly elevated TSH (48) with undetectable free T4 confirms primary hypothyroidism from thyroid gland destruction. Treatment is levothyroxine replacement, which is straightforward and typically does not require immunotherapy discontinuation — unlike more severe irAEs such as pneumonitis or colitis.

124. C — An indwelling pleural catheter allows intermittent home drainage without repeated clinic-based thoracenteses, significantly reducing treatment burden while maintaining symptom control. It is appropriate for patients with rapidly reaccumulating malignant effusions, adequate performance status, and months of expected survival. Diuretics are ineffective for malignant pleural effusions because the mechanism is not fluid overload but rather pleural fluid production by tumor.

125. A — Medicare Conditions of Participation for hospice require the interdisciplinary team to include, at minimum: a physician, a registered nurse, a social worker, and a pastoral or other counselor. This is the regulatory minimum mandated by Medicare. Additional disciplines (CNAs, therapists, pharmacists, volunteers) are part of comprehensive hospice care but are not specified as mandatory core IDT members in the federal regulations.

126. B — This response embodies the core hospice principle that living fully — attending meaningful life events, maintaining relationships, and pursuing the activities that matter most — is entirely consistent with hospice enrollment. The nurse's role is to facilitate the patient's goals by planning medication schedules, arranging equipment, and ensuring comfort during travel. Hospice patients are not confined to their homes.

127. D — Denosumab is a monoclonal antibody that blocks RANKL, the key signaling molecule required for osteoclast differentiation and activation. By preventing RANKL from binding to its receptor (RANK) on osteoclast precursors, denosumab blocks the formation and function of bone-resorbing osteoclasts. This mechanism is distinct from bisphosphonates, which inhibit mature osteoclasts through the mevalonate pathway.

128. C — Treatment of this patient's hyperglycemia is warranted for symptom relief — not for long-term glucose control. His polyuria (disrupting sleep), excessive thirst (causing discomfort), and blurred vision (preventing reading, his primary enjoyment) are directly caused by hyperglycemia and are significantly impairing his quality of life. Insulin targeting moderate glucose control can meaningfully improve these comfort-related symptoms.

129. A — School-age children (ages 6–12) understand the permanence of death but often lack mature emotional coping skills. Their grief commonly manifests as behavioral changes: denial ("he'll be fine"), academic decline, acting out, and aggression. These behaviors represent the child's attempt to manage overwhelming emotions with limited developmental resources. Supportive intervention — not disciplinary action — is appropriate.

130. B — In severe hepatic impairment, first-pass metabolism of oral morphine decreases. Normally, approximately 70% of oral morphine is metabolized during first passage through the liver. When hepatic function is severely impaired, more of the oral dose reaches systemic circulation, increasing bioavailability and effectively increasing drug exposure at the same prescribed dose. This explains the worsening sedation without any dosage change.

131. D — Metolazone blocks sodium reabsorption at the distal convoluted tubule (NCC transporter), while furosemide blocks it at the loop of Henle (NKCC2 transporter). This "sequential nephron blockade" overcomes the compensatory distal sodium reabsorption that develops when loop diuretics are used alone — the mechanism of diuretic resistance. The combination produces synergistic natriuresis that is significantly more effective than increasing furosemide alone.

132. C — Using the standard 3:1 oral-to-parenteral ratio for morphine:  $180 \text{ mg oral} \div 3 = 60 \text{ mg SC morphine per 24 hours}$ . As a continuous infusion:  $60 \div 24 = 2.5 \text{ mg/hour}$ . No cross-tolerance reduction is needed because this is the same drug being converted to a different route, not a rotation to a different opioid. Breakthrough doses should be provided at 10–15% of the total daily dose.

133. A — The correct death certificate format traces the causal chain: aspiration pneumonia (immediate cause, Line a) resulted from dysphagia (Line b), which was caused by Parkinson's disease (underlying cause, Line c). "Cardiac arrest" is a mechanism, not a cause. "Natural causes" and "old age" are unacceptable entries. The underlying cause on the lowest line is used for public health surveillance.

134. B — Albumin replacement after large-volume paracentesis is standard practice for cirrhotic (portal hypertensive) ascites to prevent post-paracentesis circulatory dysfunction — a hemodynamic complication specific to portal hypertension. Malignant ascites from peritoneal carcinomatosis has a

different pathophysiology, and routine albumin replacement is not required. This distinction is clinically important and avoids unnecessary intervention.

135. D — Fluctuating function — good days alternating with bad days within an overall declining trajectory — is the hallmark of the organ failure (Trajectory 2) illness pattern. COPD and heart failure characteristically oscillate between better and worse function while the overall trend is downward. Good days do not indicate recovery; they reflect the inherent variability of this trajectory type. This is essential education for families.

136. C — Topical metronidazole 0.75% gel is the most effective intervention for fungating wound malodor because it specifically targets the anaerobic bacteria colonizing the wound surface that produce the characteristic foul odor. The improvement is often dramatic — within 24–48 hours — and can transform the patient's social experience by enabling family presence that was previously impossible.

137. A — Numbness, disbelief, and functional "autopilot" are common, normal responses in the first days to weeks after a death. The ability to function — cooking, cleaning, making arrangements — does not indicate absence of grief; it may represent a protective coping mechanism. Pathologic grief is assessed months later, not days after the death. The widow should be reassured that her experience is normal and not a sign of something wrong.

138. B — The magnet provides only temporary suspension of ICD shock delivery. Once the device representative has permanently reprogrammed the ICD to disable the shock function, the magnet is no longer needed. The distinction between temporary magnet suspension and permanent reprogramming is important for family understanding — the reprogramming is definitive and persists regardless of whether the magnet is present.

139. D — A patient may revoke hospice at any time to pursue disease-directed therapy, and may re-elect hospice in the future. Revocation is voluntary, does not require justification, and is reversible. Some hospice programs may negotiate to cover certain targeted therapies under the per diem (option A is partially correct), but the standard pathway is revocation followed by potential re-enrollment.

140. C — This patient has morphine neurotoxicity from M6G accumulation in the setting of declining renal function (creatinine 1.0 to 3.6). Fentanyl is the preferred opioid in renal failure because it is metabolized by CYP3A4 to inactive norfentanyl — no active metabolites accumulate. Meperidine is never appropriate in palliative care due to its neurotoxic metabolite normeperidine, which also accumulates in renal failure.

141. A — Lactulose serves a dual purpose: treating hepatic encephalopathy by acidifying colonic contents and reducing ammonia absorption, AND functioning as an osmotic laxative that helps counteract opioid-induced constipation. Rather than conflicting, the two medications complement each other — lactulose addresses a common opioid side effect while simultaneously treating the underlying liver disease symptom.

142. B — The fifth episode of aspiration pneumonia in 14 months reflects the relentless trajectory of advanced dementia with progressive dysphagia. Each antibiotic course treats the acute infection but cannot change the underlying aspiration risk. The most important consideration is whether continued treatment serves comfort goals (relieving fever, dyspnea) or merely prolongs dying without improving quality of life.

143. D — Methadone's long, variable half-life (8–59 hours, mean approximately 24 hours) causes tissue accumulation over 5–7 days after initiation. A patient who appears comfortable on day 3 may develop delayed-onset sedation and respiratory depression on days 4–7 as tissue levels continue to rise. This is the most dangerous period of methadone therapy and the reason close monitoring during initiation is essential.

144. C — Daily crying at eight months and auditory experiences of the deceased (hearing his wife's voice) are both within the range of normal grief. Hearing or sensing the presence of the deceased is reported by 30–60% of bereaved individuals — it is not a hallucination or psychotic symptom. These experiences are often comforting, typically decrease over time, and do not indicate pathology. Normalizing this experience reduces the bereaved person's fear and self-doubt.

145. A — Burning, shooting, electric-shock-like pain radiating in a dermatomal distribution is classic neuropathic pain from nerve root involvement. First-line adjuvant analgesics for neuropathic pain are gabapentinoids (gabapentin, pregabalin) and SNRIs (duloxetine), which target the specific neural mechanisms producing neuropathic symptoms. NSAIDs target inflammatory mechanisms and benzodiazepines do not have analgesic properties for neuropathic pain.

146. B — This patient has failed optimized conventional laxative therapy (maximum-dose stimulant plus osmotic agent). The next step is a PAMORA — methylnaltrexone, naloxegol, or naldemedine — which blocks mu receptors in the GI tract without crossing the blood-brain barrier. This reverses the peripheral constipating effect of opioids without affecting central analgesia. PAMORAs are specifically indicated for OIC refractory to conventional laxatives.

147. D — This patient meets all Patchell trial criteria: single-level compression (T8), good pre-event ECOG (1), and expected survival exceeding three months (8 months). Surgery plus radiation demonstrated superior neurologic outcomes to radiation alone in this population. Despite his current deficits, urgent surgical decompression followed by radiation offers the best chance of preserving or restoring neurologic function.

148. C — In catastrophic hemorrhage in a comfort-focused patient, the highest immediate priority is rapid sedation to eliminate conscious terror. Midazolam from the comfort kit provides sedation within minutes. The hemorrhage source (tumor erosion) cannot be controlled in the home setting, and the patient is on comfort measures with a DNR. Preventing the patient from experiencing conscious horror during a fatal hemorrhage is the most important clinical action.

149. A — This response leads with empathy ("I can hear how much you want to keep fighting"), validates the patient's character, engages with his interest without dismissal ("let's talk about what you've read"), and ensures comprehensive symptom management regardless of his treatment decisions. It balances respect for autonomy with clinical honesty and avoids both false hope and premature closure.

150. B — Anticholinergic agents reduce NEW secretion production but cannot dry EXISTING accumulated secretions. The noise from previously pooled secretions persists until reabsorbed or drained by gravity with repositioning. The family should be reassured that the death rattle is typically more distressing to observers than to the patient, who is usually unaware of the sound. Deep suctioning is generally avoided because it is uncomfortable, stimulates more secretion production, and provides only temporary relief.

151. D — Non-pitting edema with thickened skin, woody texture, and positive Stemmer's sign (inability to pinch a skin fold at the second toe base) are pathognomonic for lymphedema. In a breast cancer patient, lymphedema likely results from pelvic or inguinal lymph node obstruction by tumor or prior surgical dissection. Lymphedema does NOT respond to diuretics — furosemide removes intravascular fluid but cannot address the protein-rich interstitial fluid from impaired lymphatic drainage.

152. C — Nausea worsened by movement and position changes is the hallmark of vestibular-mediated emesis, transmitted through H1 (histaminergic) and muscarinic receptors. Meclizine (antihistamine) and scopolamine (anticholinergic) target these receptors directly. This positional pattern distinguishes vestibular nausea from CTZ-mediated (constant), gastroparesis (postprandial), and cortical (anticipatory) mechanisms.

153. A — A terminal rally is a transient, poorly understood period of unexpected improvement that may occur hours to days before death. The patient becomes alert, engaged, and may request food or conversation. This does not indicate recovery — the underlying trajectory is unchanged. Families should be gently prepared that this rally is typically followed by rapid decline, but it may represent a precious final opportunity for meaningful connection.

154. B — Medicare Conditions of Participation require hospice programs to utilize volunteers to provide a minimum of 5% of total patient care hours. At 3.5%, this program is below the regulatory minimum and must increase volunteer services. This is a compliance issue that can trigger deficiency findings during Medicare surveys and potentially affect the program's certification.

155. D — Treatment of DVT in hospice should be individualized based on whether the DVT is causing distressing symptoms. This patient's pain and swelling are significantly impairing her comfort. LMWH can relieve these symptoms and is administered subcutaneously at home. The decision is guided by whether treatment serves the patient's comfort goals — not by a categorical prohibition on anticoagulation in hospice.

156. C — Lactulose directly relieves distressing symptoms of hepatic encephalopathy (confusion, agitation) — these are symptoms of the terminal liver disease. Medications that provide symptom relief related to the terminal diagnosis are covered under the hospice per diem regardless of their pharmacologic classification. The distinction between "disease-directed" and "symptom management" is based on clinical purpose, not drug category.

157. A — Mechanical heart valves without anticoagulation carry significant, immediate risk of valve thrombosis and systemic embolization. Unlike atrial fibrillation alone (where short-term stroke risk over weeks is negligible), the risk with mechanical valves is substantial even over a 5-week period. Warfarin should be continued as long as the patient takes oral medications, with transition to LMWH when oral intake ceases.

158. B — Acute pulmonary edema on comfort measures requires addressing BOTH the symptom (morphine for dyspnea) AND its treatable cause (increased furosemide for the volume overload causing pulmonary congestion). Treating dyspnea with morphine alone without addressing the fluid overload provides suboptimal relief. Diuresis directly reduces pulmonary congestion and is a comfort-directed intervention — treating the cause of the symptom is often more effective than treating the symptom alone.

159. D — The communication priority is to respond to the patient's emotion before providing any clinical information. She is experiencing acute grief and fear about her children. In this moment, medical information cannot be heard. The physician should acknowledge her distress, validate her concern about her children, and allow silence before any discussion of treatment options. Emotional acknowledgment must precede information delivery.

160. C — This patient IS hypoxemic (SpO<sub>2</sub> 86%, below the 90% threshold). The evidence against supplemental oxygen applies specifically to non-hypoxemic patients. In documented hypoxemia, supplemental oxygen may provide genuine dyspnea relief by improving tissue oxygen delivery. The flow rate should be increased and titrated to comfort rather than to a specific saturation target.

161. A — Celiac plexus neurolysis achieves significant pain relief in 70–90% of patients with pancreatic cancer pain and substantially reduces opioid requirements. Evidence supports early consideration — not relegation to last-resort status. The deep, boring, epigastric pain radiating to the back is the classic presentation for celiac plexus-mediated visceral pain, making this the optimal interventional target.

162. B — Severe bloody diarrhea on ipilimumab with negative infectious workup is classic immune-related colitis — one of the most serious GI irAEs. Treatment requires prompt systemic corticosteroids (prednisone 1–2 mg/kg/day), immunotherapy hold, and consideration of infliximab for steroid-refractory cases. Loperamide alone is insufficient for moderate-to-severe immune colitis, and delayed treatment increases perforation risk.

163. D — If rifaximin would reduce the patient's confusion and agitation from hepatic encephalopathy — thereby directly relieving a distressing symptom of his terminal liver disease — its use is consistent with comfort-focused goals and may be covered under the hospice per diem. The medication's classification as an antibiotic is irrelevant; its clinical purpose (symptom relief) determines its appropriateness under hospice.

164. C — A high proportion of patients dying within 7 days of enrollment (40%) and a short median length of stay (10 days) indicate late referrals. Patients are being referred too close to death to benefit from the full range of hospice services. Late referral deprives patients and families of weeks to months of symptom management, psychosocial support, spiritual care, and caregiver preparation.

165. A — Methylphenidate is the pharmacologic agent with the strongest evidence for cancer-related fatigue. It provides rapid onset (hours to days), allowing quick assessment of benefit. Standard dosing starts at 5 mg morning and noon. Modafinil has mixed evidence. Dexamethasone provides short-term

benefit but is not sustained. Her hemoglobin of 10.5 is unlikely to be the primary cause of clinically significant fatigue.

166. B — Furosemide causes renal sodium and potassium wasting, producing hyponatremia (sodium 124) and hypokalemia (potassium 2.6). These electrolyte disturbances manifest as confusion (hyponatremia) and muscle cramps (hypokalemia). This is a common complication of diuretic therapy requiring electrolyte monitoring, potassium supplementation, and possible diuretic dose adjustment.

167. D — Agonal breathing — irregular gasping breaths at wide intervals — is a brainstem reflex in the final stage of dying. It does not represent conscious respiratory effort, and the patient is not experiencing air hunger, pain, or distress. Clear, compassionate explanation to the family is essential for reducing the profound anxiety families experience when witnessing these reflexive movements.

168. C — The convergence of mottling above the knees, absent radial pulses, anuria, mandibular breathing, and unresponsiveness represents advanced organ system failure consistent with active dying. When multiple end-of-life signs cluster, death is likely within hours to days. The family should be informed with compassion, comfort measures optimized, and family presence facilitated.

169. A — Existential questioning about meaning and purpose at the end of life is a spiritual concern best addressed through spiritual care interventions: dignity therapy, narrative life review, legacy work, and facilitated exploration of meaning. These are evidence-based interventions specifically designed for existential suffering. Prescribing anxiolytics medicalizes a fundamentally human experience; psychiatric referral is appropriate only if clinical depression coexists.

170. B — The single most important prognostic factor in MSCC is the patient's neurologic status at treatment initiation. Patients ambulatory at treatment have >80% chance of remaining ambulatory; paraplegic patients have <10% chance of regaining function. This is why MSCC is a true emergency — every hour of delay risks irreversible neurologic damage that determines the patient's functional outcome for the remainder of life.

171. D — Using the 300:1 oral-to-intrathecal ratio:  $500 \text{ mg} \div 300 =$  approximately 1.7 mg intrathecal morphine per day. This 300-fold dose reduction dramatically reduces systemic side effects (sedation, myoclonus, confusion) while maintaining or improving analgesia. Using incorrect ratios (10:1, 30:1, 100:1) would produce dangerously high intrathecal doses.

172. C — Fentanyl is the preferred opioid in significant renal impairment because it is metabolized by CYP3A4 to inactive norfentanyl — no active metabolites accumulate. Morphine (M6G), oxycodone (oxymorphone), and codeine (produces morphine) all generate active metabolites that accumulate in renal failure. Meperidine is never appropriate due to its neurotoxic metabolite normeperidine.

173. A — Gabapentin is entirely renally excreted without hepatic metabolism. When GFR declines, gabapentin accumulates rapidly, producing dose-dependent toxicity: sedation, confusion, ataxia, and myoclonus. While morphine also requires attention in renal failure (M6G accumulation), gabapentin's exclusively renal clearance makes it the most urgently dose-dependent medication. The dose should be reduced by 50–75%.

174. B — This response acknowledges the emotional difficulty of the moment, validates the importance of the grandson relationship, offers practical communication support, and connects the patient with professional resources (social worker) for help with these difficult family conversations. It avoids both harsh directness and dishonest evasion while empowering the patient to handle the situation in his own way.

175. D — Tramadol has serotonin reuptake inhibition activity combined with duloxetine (an SNRI), producing excessive serotonergic stimulation. The clinical features — agitation, hyperthermia, clonus, hyperreflexia, diaphoresis — are classic serotonin syndrome. Clonus is the distinguishing feature from NMS (which features rigidity without clonus). This drug interaction is one of the most important in palliative care pharmacology.

176. C — Postprandial nausea with early satiety and bloating in a patient on opioids is classic for gastroparesis — delayed gastric emptying from opioid-mediated GI motility reduction. Metoclopramide is ideal because it combines antiemetic activity (D2 antagonism) with prokinetic activity (5-HT<sub>4</sub> agonism) that directly improves gastric emptying. It must not be used in complete bowel obstruction, which has been excluded in this patient.

177. A — "Cardiac arrest" is the mechanism of death common to virtually all deaths and provides no useful diagnostic information. Every death involves cessation of cardiac function. The death certificate should specify the disease process: respiratory failure (Line a), metastatic breast cancer (Line b), and the primary cancer (Line c). The underlying cause is used for public health statistics.

178. B — Dexamethasone is a well-recognized cause of persistent hiccups, and the temporal relationship supports this etiology. The optimal approach balances two competing needs: maintaining the appetite benefit of the corticosteroid and eliminating the hiccups. Reducing the dose (or switching

corticosteroids) addresses the cause, while baclofen provides hiccup-specific symptomatic treatment through GABA-B receptor agonism.

179. D — The 15-year-old's withdrawal, refusal to visit, academic decline, and expression of hopelessness ("doesn't see the point of anything") require active intervention by the hospice team. The social worker or bereavement coordinator should meet with the daughter to assess her emotional state and safety (the hopelessness statement warrants screening for suicidal ideation), and facilitate referral for adolescent counseling or support.

180. C — Tolerance to opioid-induced constipation does NOT develop — it is the only major opioid side effect for which tolerance does not occur. If the prophylactic laxative is stopped, constipation will recur regardless of how long the patient has been on stable opioid therapy or how well the bowels have been functioning. This is the most important and most frequently tested laxative fact on the HPM exam.

181. A — Hepatic capsule pain is caused by distension of Glisson's capsule by expanding liver metastases. Dexamethasone directly reduces hepatic inflammation and peritumoral edema, decreasing capsular stretch. This is one of the most targeted and effective non-opioid interventions for this specific pain syndrome, addressing the mechanism rather than simply modulating pain perception.

182. B — NSAIDs are specifically effective for bone metastasis pain because they inhibit prostaglandin synthesis at the site of bony tumor involvement. Bone metastases produce abundant prostaglandins that sensitize peripheral nociceptors. The addition of an NSAID provides meaningful opioid-sparing benefit specific to bone pain that is not achieved by acetaminophen, gabapentinoids, or SNRIs.

183. D — A pathologic fracture in a patient with ECOG 2 and 5-month expected survival warrants surgical fixation followed by radiation. Without surgery, the fracture in tumor-weakened bone will not heal, leaving the patient with a painful, non-functional arm. Fixation restores function, relieves pain, and radiation follows to prevent tumor regrowth. Conservative management condemns the patient to unnecessary suffering.

184. C — Duloxetine potently inhibits CYP2D6, the enzyme that converts tamoxifen to its active metabolite endoxifen. Concurrent use reduces endoxifen levels, potentially decreasing tamoxifen's anticancer efficacy. Gabapentin and pregabalin have no CYP interactions and are safe alternatives for neuropathic pain in tamoxifen-treated patients.

185. A — Spiritual care in palliative care is not limited to religion. It addresses universal human concerns — meaning, purpose, legacy, connection — relevant to patients of all belief systems including atheists. The chaplain redefines spiritual care beyond religion, offers support on the patient's own terms, and does not impose a spiritual framework. This response respects the patient's worldview while keeping the door open.

186. B — A terminal rally is a transient, poorly understood period of unexpected improvement that may occur hours to days before death. Vital signs remain abnormal and the trajectory is unchanged. Families should be gently informed that the rally does not indicate recovery and is typically followed by rapid decline, but it may represent a precious final opportunity for meaningful connection.

187. D — Cyproheptadine is the specific pharmacologic antidote for serotonin syndrome. It blocks 5-HT<sub>2A</sub> receptors, directly counteracting the excessive serotonergic stimulation. The standard dose is 12 mg orally initially, followed by 4–8 mg every 6 hours. Naloxone reverses opioid effects but not serotonin toxicity. Dantrolene treats NMS, not serotonin syndrome.

188. C — A venting gastrostomy allows the patient to eat and drink small amounts for pleasure. Food enters the stomach and is experienced — taste, texture, social ritual of eating — then drains through the gastrostomy rather than passing into the obstructed bowel. This quality-of-life benefit is one of the most important advantages of venting gastrostomy over chronic NG tube drainage or NPO status.

189. A — When opioid alone fails to adequately control dyspnea and anxiety persists, adding a benzodiazepine addresses the anxiety-breathlessness cycle. Dyspnea triggers anxiety, which worsens breathlessness perception, which increases anxiety further. Lorazepam breaks this cycle. His SpO<sub>2</sub> of 92% is above the hypoxemia threshold (90%), so oxygen increase provides less benefit than addressing the anxiety component.

190. B — Grief waves — sudden surges of intense emotion triggered by unexpected reminders — are completely normal and can occur for months or years after a loss. The fact that the son is functioning well between waves indicates healthy adaptation. There is no timeline for grief, and these episodes do not indicate pathology. Normalizing the experience reduces the shame and self-doubt bereaved people often feel.

191. D — This patient has classic morphine neurotoxicity from M6G accumulation due to declining renal function (creatinine 1.0 to 3.8). M6G is a potent mu agonist that is renally excreted. When clearance declines, M6G accumulates and causes confusion, hallucinations, and myoclonus. Rotation to fentanyl (no active metabolites) eliminates the accumulation and resolves the neurotoxicity.

192. C — Sequential nephron blockade: metolazone blocks sodium reabsorption at the distal convoluted tubule while furosemide blocks it at the loop of Henle. This combination overcomes the compensatory distal sodium reabsorption that limits furosemide's effectiveness when used alone (diuretic resistance). The synergistic effect produces significantly greater natriuresis and diuresis than increasing the loop diuretic dose alone.

193. A — Both entries are problematic: "cardiac arrest" is the universal mechanism of death (not a cause), and "natural causes" is a manner of death (not a cause). The certificate should trace the disease process: aspiration pneumonia (Line a), dysphagia (Line b), Alzheimer's disease (Line c). The underlying cause — Alzheimer's disease — is used for public health surveillance and must accurately reflect the true cause.

194. B — A lytic lesion with >50% cortical destruction in a weight-bearing bone (proximal femur) carries high pathologic fracture risk. In a patient with ECOG 2 and 4-month survival, prophylactic fixation prevents the catastrophic complication of femoral fracture — severe pain, immobility, and potentially fatal complications. This is followed by palliative radiation to prevent tumor regrowth.

195. D — Using the 3:1 oral-to-parenteral ratio: to convert IV to oral, multiply by 3.  $96 \text{ mg IV} \times 3 = 288 \text{ mg oral morphine per 24 hours}$ . This is prescribed as SR morphine approximately 144 mg every 12 hours (rounded to nearest available tablet) with breakthrough dosing at 10–15% of the total daily dose.

196. C — This patient has a multi-month prognosis, preserved quality of life, and a symptomatic infection causing distress (dysuria, pain, fever). Oral antibiotics will relieve these symptoms and are consistent with comfort-focused goals. The decision is based on whether the antibiotic serves the patient's comfort — not on a blanket policy for or against antibiotics in hospice.

197. A — Caregiver health directly impacts the patient's care plan. The nurse should express concern, normalize caregiving difficulty, explore whether respite care or additional support would help, and ensure the IDT addresses caregiver health as a care plan priority. If the husband collapses, the patient's home-based care collapses with him.

198. B — The nephrostomy decision must be guided by the patient's values and informed understanding. Nephrostomy tubes would relieve the obstruction and extend life but would not treat the cancer. The patient must understand this tradeoff and make a decision that reflects her own values about quality versus quantity of remaining life. Technical feasibility and insurance coverage are secondary to the patient's goals.

199. D — This patient has severe hypoxemia (SpO<sub>2</sub> 76%) with acute dyspnea on comfort measures. The comprehensive approach includes: morphine bolus for air hunger, midazolam for the terror/anxiety component, increased oxygen (he IS hypoxemic), upright positioning, and a fan to the face. Unlike non-hypoxemic patients, this patient may genuinely benefit from increased oxygen. Intubation violates his POLST.

200. C — This patient has failed maximal conventional laxative therapy (stimulant at maximum dose, osmotic agent, and suppositories). The next step is a PAMORA — methylnaltrexone blocks mu receptors in the GI tract without crossing the blood-brain barrier, reversing peripheral opioid-induced constipation without affecting central analgesia. PAMORAs are specifically indicated for OIC refractory to conventional laxatives.

201. A — Worsening hepatic function reduces first-pass metabolism of oral morphine, increasing its systemic bioavailability. At the same prescribed dose, more drug reaches systemic circulation, producing higher serum levels and increased sedation. Dose reduction with close monitoring is the critical adjustment. Meperidine is never appropriate in palliative care regardless of organ function.

202. B — DVT treatment in hospice should be individualized based on whether symptoms warrant intervention. This patient's pain and swelling are impairing comfort. LMWH can relieve these symptoms and is administered subcutaneously at home. The decision is guided by comfort goals — not by a categorical prohibition on anticoagulation in hospice.

203. D — GIP is for acute symptom management requiring inpatient-level care. Caregiver exhaustion is the indication for Inpatient Respite Care (IRC), which has a different reimbursement rate and a maximum of 5 consecutive days. Billing GIP for a respite need constitutes incorrect billing — a compliance issue that can trigger audit findings and fraud allegations.

204. C — The calculation yields 8.25 mg SC hydromorphone per 24 hours. Dividing by 24:  $8.25 \div 24 =$  approximately 0.34 mg/hour. This multi-step conversion (oral morphine → parenteral morphine → parenteral hydromorphone → cross-tolerance reduction → hourly rate) is the most complex equianalgesic calculation tested on the exam.

205. A — The parenteral-to-oral ratio for hydromorphone is 1:5 (1.5 mg parenteral = 7.5 mg oral). Converting:  $19.2 \text{ mg IV} \times 5 = 96 \text{ mg oral hydromorphone per day}$ . The 5:1 ratio for hydromorphone is distinct from morphine's 3:1 ratio — confusing these ratios is a common and dangerous error.

206. B — Moral distress occurs when a clinician knows what she believes is the ethically right action (initiating sedation earlier) but feels unable to carry it out due to institutional or hierarchical barriers. This causes anguish, frustration, and powerlessness — the defining features of moral distress. It is distinct from compassion fatigue (empathic absorption), burnout (organizational/workload factors), and normal dissatisfaction.

207. D — Proximal myopathy — weakness of hip and shoulder girdle muscles — is a dose-dependent, duration-dependent adverse effect of chronic corticosteroid use. Three weeks of dexamethasone 8 mg daily is sufficient to cause this complication. The proximal pattern (difficulty rising, climbing stairs) with preserved distal strength and no sensory changes distinguishes it from cord compression or brain metastases.

208. C — Hindu tradition generally favors cremation. Family members may wish to wash and prepare the body themselves, and specific prayers and rituals (often performed by a priest or family elder) typically accompany the preparation and cremation process. The hospice team should accommodate these practices by coordinating with the family and funeral services.

209. A — The face-to-face encounter requirement begins with the third benefit period (first 60-day period) and continues for ALL subsequent periods. This patient is in his fourth benefit period, so the requirement applies. The encounter must occur within 30 days before the start of the benefit period and must be conducted by a hospice physician or nurse practitioner who personally assesses the patient.

210. B — Medicare requires hospice programs to provide bereavement support for at least 13 months after the patient's death. This typically includes periodic contacts, memorial events, support groups, and referrals for individual counseling. The physician can also help the patient prepare her husband now through conversations about wishes, legacy work, and connecting him with community resources before her death.

211. D — Denosumab blocks RANKL, the key signaling molecule for osteoclast differentiation and activation. By preventing RANKL from binding to RANK on osteoclast precursors, denosumab inhibits bone resorption. This mechanism is distinct from bisphosphonates (zoledronic acid, pamidronate), which inhibit mature osteoclasts through the mevalonate pathway.

212. C — Vertebroplasty and kyphoplasty provide rapid pain relief for vertebral compression fractures — 70–90% of patients experience significant improvement within 24–72 hours. The mechanism is mechanical stabilization of the fractured vertebral body. For a patient with acute, severe, localized

compression fracture pain, this procedure offers the fastest and most targeted relief. Single-fraction radiation has a slower onset (2–4 weeks).

213. A — This response embodies the core hospice principle of living fully. The nurse actively facilitates the patient's meaningful activity rather than creating barriers. Planning medication schedules, arranging equipment, and ensuring comfort for the trip is exactly what hospice is designed to do — supporting quality of life and meaningful experiences during serious illness.

214. B — The ganglion impar is a solitary ganglion located anterior to the sacrococcygeal junction, transmitting visceral afferent pain from the perineum, rectum, anus, and vulva. This is the precise anatomic target for this patient's perineal and rectal cancer pain from sacral nerve root invasion. The celiac plexus serves upper abdominal organs and is not indicated for pelvic pain.

215. D — Medicare Conditions of Participation require 5% minimum volunteer utilization. At 4.2%, this program is below the regulatory threshold and must increase volunteer services. This is a compliance issue — programs below 5% face deficiency citations during Medicare surveys.

216. C — The decision to treat hypercalcemia in hospice is individualized based on goals. If the patient wants symptom relief, treating hypercalcemia may improve confusion, constipation, nausea, and polyuria simultaneously. If goals are comfort-only and treatment would merely prolong dying, supportive symptom management alone may be appropriate. The patient's goals — not the calcium level alone — determine the clinical approach.

217. A — This response uses a range ("weeks to a few months") rather than a false-precision single number, honestly acknowledges the uncertainty of prognostication, connects the prognostic information to practical planning ("help you plan for the things that matter most"), and opens the conversation to what the patient most wants to discuss. It provides actionable information without false certainty.

218. B — Using the 3:1 oral-to-parenteral ratio:  $120 \text{ mg oral} \div 3 = 40 \text{ mg SC morphine per day}$ . As a continuous infusion:  $40 \div 24 = \text{approximately } 1.7 \text{ mg/hour}$ . No cross-tolerance reduction because this is the same drug by a different route. Breakthrough doses should be 10–15% of the daily total (4–6 mg SC every 2–3 hours PRN).

219. D — Uremic myoclonus is effectively managed with benzodiazepines (lorazepam or clonazepam) that suppress the involuntary movements without requiring anticonvulsant loading. Phenytoin loading is

unnecessary because myoclonus is distinct from seizures. Lorazepam 0.5–1 mg SL every 6–8 hours or clonazepam 0.5 mg BID provides symptomatic relief.

220. C — Opioid-induced pruritus results from histamine release (especially with morphine) and/or central mu receptor activation. The temporal relationship to the dose increase supports this etiology, and the normal bilirubin and renal function exclude cholestatic and uremic mechanisms. Management includes opioid rotation to fentanyl (minimal histamine release) or antihistamine addition.

221. A — Mechanical heart valves without anticoagulation carry significant, immediate risk of valve thrombosis and embolization — a risk much higher than the stroke risk from atrial fibrillation alone. Even over a 4-week period, the risk of discontinuing warfarin with a mechanical valve is substantial. Warfarin should be continued as long as oral medications are tolerated.

222. B — Acute adrenal insufficiency (undetectable cortisol, severe hypotension, hypoglycemia) in a patient on checkpoint inhibitor therapy is consistent with immune-related hypophysitis or adrenalitis. This is a life-threatening irAE requiring urgent IV hydrocortisone 100 mg for hemodynamic stabilization, followed by ongoing hormone replacement and endocrine evaluation.

223. D — Albumin replacement is NOT routinely required for malignant ascites from peritoneal carcinomatosis. It is standard for cirrhotic (portal hypertensive) ascites, where rapid fluid removal causes specific hemodynamic complications (post-paracentesis circulatory dysfunction from RAAS activation). The pathophysiology of malignant ascites is different, and routine albumin replacement is unnecessary.

224. C — Zoledronic acid is a bisphosphonate that inhibits osteoclast-mediated bone resorption, providing the most sustained calcium reduction. Its onset is 24–48 hours with nadir at 4–7 days and duration of 2–4 weeks. Calcitonin provides faster but transient relief (tachyphylaxis within 48 hours) and serves as a bridge. Furosemide for forced calciuresis is no longer recommended as a primary calcium-lowering strategy.

225. A — Clinician grief — sadness and emotional response to the loss of a patient — is a normal, healthy response reflecting meaningful therapeutic engagement. It indicates that the physician formed a genuine connection and is not evidence of burnout, compassion fatigue, or boundary violation. The ability to grieve patients is a sign of intact emotional capacity, not pathology.

226. B — Handgrip-pattern bruising, an intoxicated caregiver who is "rough" during care, and a vulnerable patient with advanced disease raise significant concern for elder abuse. All health care providers are mandatory reporters. The nurse should assess the patient privately, look for additional signs, document findings, and report to adult protective services if abuse is suspected.

227. D — Levetiracetam is optimal for palliative care polypharmacy: no significant hepatic metabolism (avoids CYP interactions with opioids, corticosteroids, antiemetics), available in IV and liquid formulations (essential when swallowing declines), and favorable side effect profile. Phenytoin and carbamazepine have extensive CYP interactions that would complicate this patient's complex medication regimen.

228. C — The convergence of Cheyne-Stokes respirations, mottling above the knees, mandibular breathing, decreased urine output, and loss of radial pulse represents the cluster of end-of-life signs most reliably associated with death within 72 hours. No single sign is definitive alone, but the clustering of three or more provides high prognostic confidence.

229. A — Perceived burdensomeness is one of the strongest predictors of desire for hastened death in palliative care patients and is a hallmark of major depression in serious illness. Her PHQ-9 of 19 confirms moderately severe depression requiring treatment. Treating the depression may significantly reduce both perceived burdensomeness and any emerging desire for hastened death.

230. A — This response combines Support (committing to continued care: "our team will be with you"), Knowledge (providing factual reassurance: "we have very effective medications"), and Exploration (asking about specific fears: "what frightens you most?"). It addresses the patient's fear of abandonment and her fear of uncontrolled symptoms simultaneously without offering false guarantees. Note: A is the clinically correct response.