MD Anderson Hospice and Palliative Medicine Physician Board Review 2022 Q&A Handbook

Board Review Answers

Pain Management I

1. The correct answer is (A).
   Gabapentin when added to morphine can lead to drowsiness more than either drug used individually. In a study by Eckhardt K et al, it was noted that the level of gabapentin was increased when morphine was added to the regime. Hence caution must be exercised in when both drugs are used together. Perhaps a lower than conventional dose should be used in these patients. The age is a factor in causing drowsiness in patients with decreased clearance and in renal impairment. So, one must use caution and use reduced dose if renal impairment is present. Radiation may lead to fatigue and may enhance drowsiness, but the presence of pain, drowsiness may be mild.
   Reference:
   - Eckhardt K, Ammon S, Hofmann U, Riebe A, Gugeler N, Mikus G. Gabapentin enhances the analgesic effect of morphine in healthy volunteers. Anesth Analg. 2000 Jul; 91(1):185-91.
   - Madden K, Haider A, Rozman De Moraes A, Naqvi SM, Enriquez PA, Wu J, Williams J, Liu D, Bruera E. Frequency of Concomitant Use of Gabapentinoids and Opioids among Patients with Cancer-Related Pain at an Outpatient Palliative Care Clinic. J Palliat Med. 2021 Jan;24(1):91-96. doi: 10.1089/jpm.2019.0614. Epub 2020 Jun 2. PMID: 32486874.

2. The correct answer is (C).
   Unlike nausea and itching, which patients confuse as allergic reactions, hives and difficulty breathing are true allergic reactions. Morphine, codeine, hydrocodone, hydromorphone, oxycodone, and oxymorphone belong to a class of opioids called phenanthrenes. In the instance of allergic reaction to an opioid in this class, trying an opioid in another class, such as phenylpiperidines (e.g., fentanyl) or phenylheptylamines (e.g., methadone), is recommended.
   Reference:
   - Amabile CM, Bowman BJ. Overview of oral modified-release opioid products for the management of chronic pain. Ann Pharmacother 2006;40(7-8): 1327-35
   - Trescot AM, Datta S, Lee M, Hansen H. Opioid pharmacology. Pain Physician. 2008 Mar;11(2 Suppl):S133-53. PMID: 18443637.

3. The correct answer is (E).
   CYP3A4 catalyze the metabolism of 60% of all drugs used clinically with ~10-fold inter-subject variability in their metabolism. Opioid analgesics such as codeine, dihydrocodeine, fentanyl, tramadol, alfentanil, methadone, oxycodone, buprenorphine and dextromethorphan are metabolized at least in part by CYP3A4. Morphine, and Hydromorphone are metabolized mainly by glucuronidation to M3G/ M6G, and HM3G, and HM6G. UGT2B7 has a major role in the metabolism of commonly used opioid analgesics (morphine, hydromorphone, and oxymorphone), non-steroidal anti-inflammatory drugs, and anticonvulsants. Polymorphisms in UGTB7 may significantly impact metabolism of morphine, hydromorphone to Morphine or Hydromorphone 3 and 6 glucuronide and hence the pain response and side effects.
   Reference:
   Bertz RJ, Granneman GR. Use of in vitro and in vivo data to estimate the likelihood of metabolic pharmacokinetic interactions. Clin Pharmacokinet 1997: 32: 210–258.
   Coffman BL, Rios GR, King CD et al. Human UGT2B7 catalyzes morphine glucuronidation. Drug Metab Dispos 1997: 25: 1–4

4. The correct answer is (C).

The pathophysiology of post herpetic neuralgia is of intense debate. But intense sympathetic stimulation and activation of adrenergic receptors may play a role in both acute zoster pain as well as chronic post herpetic neuralgia. One hypothesis proposes that an acute inflammatory response produces intense sympathetic stimulation leading to a decrease in neuronal blood flow and neuronal ischemia. Hence a sympathetic block will increase blood flow and relieve pain. Trigeminal nerve, Facial nerve and Gasserian ganglion block are not sympathetic nerves

Reference:

- Christopher L, Ann Marsh, Robert H. Dworkin. The role of sympathetic nerve blocks in herpes zoster and postherpetic neuralgia. The role of sympathetic nerve blocks in herpes zoster and postherpetic neuralgia: Pain : 87, 2, (1) 2000, 121–129

5. The correct answer is (B).

   The superior hypogastric plexus contains sympathetic nerves originating from the descending colon, rectum, testes, penis, prostate, perineum, vulva vagina, uterus, ovaries, urethra and bladder. Therefore, the block can help with pain in any of these regions. The superior hypogastric plexus lies anterior to the vertebral column between the lower third of L5 and the upper third of the S1 vertebral bodies and can be approached posteriorly or anteriorly. Celiac plexus helps pain originating from lower esophagus to mid-transverse colon. Ganglion impar helps pain originating in the rectal area, whereas stellate ganglion block cover regions of face and upper extremity.

   Reference:

- Â Plancarte R, Amescua C, Patt RB, Aldrete JA. Superior hypogastric plexus block for pelvic cancer pain. Anesthesiology. 1990 Aug;73(2):236-9
- Torres JE, Nagpal AS, Iya A, McGeary D, Srinivasan M. Interventional treatment options for women with pelvic pain. *Curr Phys Med Rehabil Rep*. 2020;8(3):229-239. doi:10.1007/s40141-020-00265-5

6. The correct answer is (C).

   Pain in this case is visceral originating from liver with corresponding back radiation. Pain may also be originating from adrenal gland. In both situations either a celiac plexus or a splanchnic nerve block is appropriate. Celiac plexus lies in front of aorta at L1 level, whereas splanchnic is higher up at anterolateral part of T12 vertebra. Both are sympathetic nerves/plexus which carry fibers from upper abdominal viscera up to mid transverse colon. In the case presented, Intrathecal therapy is an option but for long term use. Lumbar sympathetic block is done for sympathetic pain in lower extremities. Psoas compartment block is also done for pain in the lower extremity, covering dermatomes of L1, 2 and 3

   Reference:

- DeLeon-Casasola. Critical Evaluation of Chemical Neurolysis of the Sympathetic Axis for Cancer Pain. Cancer Control. 2000; 7(2):142-148.

7. The correct answer is (C).

   Trigger points are discrete, focal, hyperirritable spots located in a taut band of skeletal muscle.

   - They produce pain locally and in a referred pattern, often accompany chronic musculoskeletal disorders.
   - Acute trauma or repetitive micro trauma may lead to the development of stress on muscle fibers and the formation of trigger points
   - Referred pain is an important characteristic of a trigger point

   Reference:

- Simons D, Travell J, Simons L. Travell & Simons' Myofascial Pain and Dysfunction: The Trigger Point Manual. 2nd edition. Baltimore, Md, USA: Williams & Wilkins;1999
- Clara S. M. Wong and Steven H. S. Wong. A New Look at Trigger Point Injections: Anesthesiol Res Pract. 2012; 2012: 492452.

8. The correct answer is (D).

Patient is on 40mcg/hr of fentanyl PCA with no break throughs. He can be started on 37mcg/hr of fentanyl transdermal patch consider the bioavailability is 60-90%. If the patient expresses uncontrolled pain during his follow up visit, consider increasing the patch to 50mcg/hr.
Reference:

- Reddy A, Yennurajalingam S, Reddy S, Wu J, Liu D, Dev R, Bruera E. The Opioid Rotation Ratio from Transdermal Fentanyl to "Strong" Opioids in Patients with Cancer Pain. J Pain Symptom Manage. 2016 Jun;51(6):1040-5. doi: 10.1016/j.jpainsymman.2015.12.312. Epub 2016 Jan 28. PMID: 26826675.
- Reddy A, Tayjasanant S, Haider A, Heung Y, Wu J, Liu D, Yennurajalingam S, Reddy S, de la Cruz M, Rodriguez EM, Waletich J, Vidal M, Arthur J, Holmes C, Tallie K, Wong A, Dev R, Williams J, Bruera E. The opioid rotation ratio of strong opioids to transdermal fentanyl in cancer patients. Cancer. 2016 Jan 1;122(1):149-56. doi: 10.1002/cncr.29688. Epub 2015 Oct 9. PMID: 26451687.

9. The correct answer is (B).
   Overlap the patch and the PCA for 6hours and the Transdermal patch takes nearly 6hours to form a depot.
   Reference:

- Reddy A, Yennurajalingam S, Reddy S, Wu J, Liu D, Dev R, Bruera E. The Opioid Rotation Ratio from Transdermal Fentanyl to "Strong" Opioids in Patients with Cancer Pain. J Pain Symptom Manage. 2016 Jun;51(6):1040-5. doi: 10.1016/j.jpainsymman.2015.12.312. Epub 2016 Jan 28. PMID: 26826675.
- Reddy A, Tayjasanant S, Haider A, Heung Y, Wu J, Liu D, Yennurajalingam S, Reddy S, de la Cruz M, Rodriguez EM, Waletich J, Vidal M, Arthur J, Holmes C, Tallie K, Wong A, Dev R, Williams J, Bruera E. The opioid rotation ratio of strong opioids to transdermal fentanyl in cancer patients. Cancer. 2016 Jan 1;122(1):149-56. doi: 10.1002/cncr.29688. Epub 2015 Oct 9. PMID: 26451687.

10. The correct answer is (D).
    In this patient the daily morphine equivalent dose if 60mgX3=180 + 15mgX4= 60 = 240. Rotating the patient from one opioid to another reduce by 50% considering the cross tolerance. 240X0.5 =120,
    Oral morphine to oral HDM is 5:1, 120/5 = 24.
    Start patient on HDM ER 24mg once daily with HDM IR 4mg Q4H PRN. A & B are going to undertreat the pain and C&E might lead to overdosing.
    Reference:

- Azhar A, Kim YJ, Haider A, et al. Response to Oral Immediate-Release Opioids for Breakthrough Pain in Patients with Advanced Cancer with Adequately Controlled Background Pain. *Oncologist*. 2019;24(1):125-131. doi:10.1634/theoncologist.2017-0583

Management of Pain II:

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1. The correct answer is (D).

   The patient appears to have a true allergy to morphine. Unlike nausea and itching, which patients confuse as allergic reactions, hives and difficulty breathing are true allergic reactions. Morphine, codeine, hydrocodone, hydromorphone, oxycodone, and oxymorphone belong to a class of opioids called phenanthrenes. In the instance of allergic reaction to an opioid in this class, trying an opioid in another class, such as phenylpiperidines (e.g., fentanyl) or phenylheptylamines (e.g., methadone), is advised.

   Reference:

- Amabile CM, Bowman BJ. Overview of oral modified-release opioid products for the management of chronic pain. Ann Pharmacother 2006;40(7-8): 1327-35
- Trescot AM, Datta S, Lee M, Hansen H. Opioid pharmacology. Pain Physician. 2008 Mar;11(2 Suppl): S133-53. PMID: 18443637.

2. The correct answer is (C).

   Benzodiazepines, zolpidem, and baclofen are selective GABA agonists. Tiagabine is an antiepileptic drug that is a selective GABA reuptake inhibitor. Both tricyclic antidepressants and serotonin-norepinephrine reuptake inhibitors are involved in the mechanism of inhibiting the reuptake of norepinephrine. Gabapentin and pregabalin both bind to the voltage-gated calcium channels and decrease the release of glutamate, norepinephrine, and substance P.
   Reference:
   - Dworkin RH, O'Connor AB, Backonja M, et al. Pharmacologic management of neuropathic pain: evidence-based recommendations. Pain 2007;132(3): 237-51

3. The correct answer is (C).

   At a dosage of 150 mg or greater, venlafaxine, a selective serotonin-norepinephrine reuptake inhibitor, was shown to be effective in treating painful polyneuropathy, including diabetic neuropathy, in randomized controlled trials. At lower doses, venlafaxine acts as a selective serotonin reuptake inhibitor only, which is the mechanism of action of citalopram. Neither ibuprofen nor acetaminophen is effective in treating diabetic neuropathy.
   Reference:
   - Dworkin RH, O'Connor AB, Backonja M, et al. Pharmacologic management of neuropathic pain: evidence-based recommendations. Pain 2007;132(3): 237-51

4. The correct answer is (C)

   The main metabolite of morphine is morphine-3-glucuronide. However, morphine-6-glucuronide is an agonist at μ-opioid receptors and exerts antinociceptive activity. Morphine-3-glucuronide confers neuro-excitatory effects and is responsible for the symptoms of opioid-induced neurotoxicity. Morphine-3-glucoronide is believed to have no antinociceptive effect. Codeine is metabolized by 10% into morphine. Hydromorphone-3-glucuronide is the neuro-excitatory metabolite of hydromorphone.
   Reference:
   - Lotsch J. Opioid metabolites. J Pain Symptom Manage 2005;29(5 Suppl): S10-24
   - Trescot AM, Datta S, Lee M, Hansen H. Opioid pharmacology. Pain Physician. 2008 Mar;11(2 Suppl):S133-53. PMID: 18443637.

5. The correct answer is (D).

   The patient is most likely experiencing neurotoxic effects of the accumulation of oxycodone and its metabolites in the presence of renal failure. Morphine, hydromorphone, and codeine are either considered unsafe or should be used with caution. Methadone and its metabolites are excreted into the gut, thereby making methadone a safer option in the presence renal failure. Similarly, fentanyl has also been found to be safe in the presence of renal failure in the short term and possibly in the long term with careful monitoring.
   Reference:
   - Dean M. Opioids in renal failure and dialysis patients. J Pain Symptom Manage 2004;28(5): 497-504

6. The correct answer is (A).

   The patient is receiving 20 mg of oxycodone every 8 hours, a total of 60 mg of oxycodone a day. The conversion factor for oxycodone to morphine is 1.5. That gives us a morphine equivalent daily dose (MEDD) of 90. The

morphine-to-methadone conversion table is variable for different MEDDs. For doses less than 100, it is recommended to divide by 4 to obtain equivalent dose of methadone. Here, 90/4 = 22.5. Methadone at 2.5 mg every 12 hours would be inadequate and the other two choices would be equal to 60 mg of methadone a day, which would be much higher than the recommended dosing.
Reference:

- Elsayem A, Bruera E. The MD Anderson symptom control and palliative care handbook. Houston, TX: University of Health Science Center at Houston, 2008

7. The correct answer is (A).

   Corticosteroids (e.g., dexamethasone) are used to treat different kinds of cancer pain, including bone pain and neuropathic pain. An acute episode of severe pain such as our patient's necessitates corticosteroids if opioids alone do not reduce the level of pain. After initiation, the dose can be tapered over days or weeks. Gabapentin or duloxetine would be ineffective for acute bone pain especially in the absence of neuropathic pain. Acetaminophen is not indicated here.
   Reference:

- Lussier D, Huskey AG, Portenoy RK. Adjuvant analgesics in cancer pain management. Oncologist 2004;9(5): 571-91

8. The correct answer is (D).

   Opioid rotation is recommended for uncontrolled pain despite opioid titration and the addition of adjuvants, for uncontrolled adverse effects, and for symptoms of opioid-induced neurotoxicity like confusion, excessive sedation, myoclonus, and hallucination.
   Reference:

- Dale O, Moksnes K, Kaasa S. European Palliative Care Research Collaborative pain guidelines: opioid switching to improve analgesia or reduce side effects. A systematic review. Palliat Med 2011;25(5): 494-503
- Arthur J, Reddy A. Opioid Prescribing in an Opioid Crisis: What Basic Skills Should an Oncologist Have Regarding Opioid Therapy? Curr Treat Options Oncol. 2019 Apr 1;20(5):39. doi: 10.1007/s11864-019-0636-3. PMID: 30937544

9. The correct answer is (C).

   Mr. Smith is experiencing myoclonus as a result of hydromorphone-induced neurotoxicity. Apart from rotating his opioids and starting a neuroleptic drug if needed for agitation, immediate control of myoclonus can be achieved either with benzodiazepines, such as clonazepam, or by using dantrolene or baclofen. The initial step would be to control myoclonus, which should be followed by opioid rotation and hydration.
   Reference:

- Mercadante S. Pathophysiology and treatment of opioid-related myoclonus in cancer patients. Pain 1998;74(1): 5-9

10. The correct answer is (A).

    Increasing the current opioid prescription dose by 33%-50% every 24 hours is recommended for uncontrolled cancer pain. This strategy is limited by the presentation of side effects, at which time opioid rotation could be considered; however, uncontrolled side effects are not mentioned here. The patient's current long-acting opioid dosage is 120 mg of oral morphine per day. An increase to 180 mg (50% increase) of oral morphine per day would be appropriate in this circumstance.
    Reference:

- Mercadante S. Opioid titration in cancer pain: a critical review. Eur J Pain 2007;11(8): 823-30

11. The correct answer is (E).

    Serious adverse events, including death, in patients treated with some oral TIRFs have been reported. Deaths occurred as a result of improper patient selection (e.g., use in patients who could not tolerate opioids) and/or improper dosing. The substitution of a TIRF medicine for any other TIRF medicine may result in fatal overdose. TIRF medicines are indicated only for the management of breakthrough pain in adult cancer patients who are already receiving and who are tolerant to around-the-clock opioid therapy for their underlying persistent cancer pain. All of the above are TIRF preparations included in the REMS program.
    - Fleischman W, Auth D, Shah ND, Agrawal S, Ross JS. Association of a Risk Evaluation and Mitigation Strategy Program with Transmucosal Fentanyl Prescribing. JAMA Netw Open. 2019 Mar 1;2(3):e191340. doi: 10.1001/jamanetworkopen.2019.1340. PMID: 30924899; PMCID: PMC6450314.

12. The correct answer is (C).

    Ms. D is experiencing breakthrough cancer pain. Breakthrough pain is treated with a short-acting opioid usually at a ratio of 10%-20% of the MEDD taken every 4 hours as needed. Ms. D is currently taking 60 mg of oxycodone per day; 10%-20% of that would be 6-12 mg of immediate-release oxycodone every 4 hours as needed.
    Reference:
    - Hanks GW, Conno F, Cherny N, et al. Morphine and alternative opioids in cancer pain: the EAPC recommendations. Br J Cancer 2001;84(5): 587-93

13. The correct answer is (D).

    Mrs. Jones is experiencing opioid-induced nausea that is best treated by inhibition of the D2 dopaminergic receptors. Butyrophenones like haloperidol, which has potent central antidopaminergic activity, and metoclopramide, which has both central and peripheral antidopaminergic activity, are preferred in this situation. Promethazine and meclizine act by blocking the H1 receptor in the vomiting center and vestibular apparatus; therefore, neither of those would be effective in this situation. Ondansetron blocks the 5-HT3 receptor and is a serotonin antagonist in the gastrointestinal tract and chemoreceptor trigger zone, which is more beneficial in treating chemotherapy-induced nausea and vomiting.
    Reference:
    - Herndon CM, Jackson KC, 2nd, Hallin PA. Management of opioid-induced gastrointestinal effects in patients receiving palliative care. Pharmacotherapy 2002;22(2): 240-50
    - Arthur J, Hui D. Safe Opioid Use: Management of Opioid-Related Adverse Effects and Aberrant Behaviors. Hematol Oncol Clin North Am. 2018 Jun;32(3):387-403. doi: 10.1016/j.hoc.2018.01.003. PMID: 29729776.

14. The correct answer is (C).

    Mr. Max is probably experiencing oral pain as a result of radiation-induced mucositis. That is the most likely cause for decreased oral intake (including the intake of fluid). In the absence of other descriptors like fever or exudate, infection is unlikely. There is no description of polypharmacy or laboratory values to indicate hypercalcemia. Dehydration is a major contributor to opioid-induced neurotoxicity. If symptoms of neurotoxicity persist after adequate hydration, opioid titration or rotation is recommended.
    Reference:
    - Lawlor PG. The panorama of opioid-related cognitive dysfunction in patients with cancer: a critical literature appraisal. Cancer 2002;94(6): 1836-53

15. The correct answer is (D).

    One of the most common causes of neuropathic pain in patients with lung cancer is the compression or infiltration of the brachial plexus, as seen in Pancoast tumors. Brachial plexopathy causes a burning sensation in the ulnar side of the hand. It can be associated with Horner's syndrome (miosis, ptosis, and enophthalmos). Common descriptors of neuropathic pain are throbbing, pricking, tingling, numbing, burning, and nagging.
    Reference:
    - Jaeckle KA. Neurological manifestations of neoplastic and radiation-induced plexopathies. Semin Neurol 2004;24(4): 385-93

16. The correct answer is (C).

    According to the World Health Organization's three-step cancer pain relief ladder, non-opioids like acetaminophen or non-steroidal anti-inflammatory drugs should be used first for pain. If the pain is still not relieved, the next step would be to administer a mild opioid with or without an adjuvant. Among the choices listed above, codeine is a mild opioid. If the pain is still not relieved, a stronger opioid like morphine, methadone, or oxycodone is indicated.
    Reference:
    - Zech DF, Grond S, Lynch J, Hertel D, Lehmann KA. Validation of World Health Organization Guidelines for cancer pain relief: a 10-year prospective study. Pain 1995;63(1): 65-76
    - WHO Guidelines for the Pharmacological and Radiotherapeutic Management of Cancer Pain in Adults and Adolescents. Geneva: World Health Organization; 2018. PMID: 30776210.

17. The correct answer is (D).

    Opioid resistance, hyperalgesia, and neuropathic pain have been attributed to the activation of the NMDA receptors, which cause central sensitization whereby the neurons become more responsive to all its inputs. NMDA is a receptor for glutamate, which is an excitatory neurotransmitter. Co-administration of an NMDA receptor antagonist and an opioid may prevent the development of tolerance to opioid analgesia. Ketamine and methadone are widely used for their NMDA receptor antagonist properties; however, more studies are needed before using dextromethorphan as a therapeutic agent in pain management.
    References:
    - Trujillo KA. Are NMDA receptors involved in opiate-induced neural and behavioral plasticity? A review of preclinical studies. Psychopharmacology (Berl) 2000;151(2-3): 121-41
    - Prommer EE. Ketamine for pain: an update of uses in palliative care. J Palliat Med 2012;15(4): 474-83
    - Axelrod DJ, Reville B. Using methadone to treat opioid-induced hyperalgesia and refractory pain. J Opioid Manag 2007;3(2): 113-4
    - Siu A, Drachtman R. Dextromethorphan: a review of N-methyl-d-aspartate receptor antagonist in the management of pain. CNS Drug Rev 2007;13(1): 96-106

18. The correct answer is (B).
    Several CYP450 isoenzymes, primarily CYP3a4 followed by CYP2D6 metabolize Methadone to an inactive metabolite called 2-ethylidene-1,5-dimethyl-3,3-diphenylpyrrolidin. CYP450 system is inhibited by multiple antibiotics which can lead to increase levels of serum methadone. Quinolone antibiotics, especially ciprofloxacin is well known for its inhibitory effect on CYP450. Patient could be experiencing methadone induced neurotoxicity from its elevated levels.

    Reference:

- Samoy L, Shalansky KF. Interaction between Methadone and Ciprofloxacin. *Can J Hosp Pharm*. 2010;63(5):382-384. doi:10.4212/cjhp.v63i5.950

19. The correct answer is (D).
As patient have venting G tube and ongoing bowel obstruction, he is unable to take oral meds. The long acting or extended-release formulations for Morphine, Oxycodone, Hydromorphone and oxymorphone cannot be crushed to be given via venting G tube. Which is why transdermal patch of Fentanyl if the best choice.
Reference:
- Reddy A, Vidal M, Haider A, Arthur J, Hui D, Wu J, Liu D, Holmes C, Carrol M, Dalal S, Dev R, Tanco K, Bruera E. A retrospective review of the use of oxymorphone immediate release for long term pain control in cancer patients with gastrostomy tubes. Ann Palliat Med. 2021 Mar;10(3):2662-2667. doi: 10.21037/apm-20-969. Epub 2021 Jan 27. PMID: 33549000.

Pediatric Palliative Care

1. The correct answer is (E).

Children ages 3-7 are usually able to use versions of the faces scale such as the Oucher, the Baker Wong scale and the revised Bieri, as well as color visual analog scales such as the pain thermometer, to rate their pain. (A) is not correct because behavioral scales such as the CHEOPS are the primary means of assessment for children under the age of four and for those with developmental disabilities. The pediatric Memorial Symptom Assessment Scale is available for children in either of two age ranges-children between the ages of 7-12 years and those between the ages of 10-18 years. This tool measures multiple symptoms in addition to pain.
References:
- Berde CB, Sethna NF. Analgesics for the treatment of pain in children. *New Engl J Med* 2002;347:1094-1103,
- Collins JJ, Byrnes ME, Dunkel IJ, Lapin J, Nadel T, Thaler HT, Polyak T, Rapkin B, Portenoy RK. The measurement of symptoms in children with cancer. *J Pain Symptom Manage* 2000;19:363-37,
- Collins JJ, Devine TD, Dick GS, Johnson EA, Kilham HA, Pinkerton CR, Stevens MM, Thaler HT, Portenoy RK. The measurement of symptoms in young children with cancer: The validation of the Memorial Symptom Assessment Scale in children aged 7-12. *J Pain Symptom Manage* 2002; 23:10-16.

2. The correct answer is (B).

Treatment-related pain, in this case, due to chemotherapy-associated neurotoxicity. The painful tingling is characteristic of neuropathic pain. (C) is not correct because a traumatic bone marrow biopsy should be associated with unilateral pain, not bilateral pain. (A) and (C) are both incorrect because they are related to Andy's tumor. The most common cause of pain in children with cancer is pain related to cancer treatment, followed by pain related to procedures. Pain related to the tumor is the 3rd most common cause of pain in this setting.
Reference:
- Ljunman G, Gordh T, Sorensen S, et al. Pain in pediatric oncology: interviews with children, adolescents and their parents*. Acta Paediatr* 1999;88:623-630

3. The correct answer is (E).

Finding out more precisely what Jasmine wants to know will better allow you to give her the information she is looking for in a developmentally appropriate manner. Using the correct word, in this case, cancer, rather than tummy ache or sickness, demonstrates your respect for her as a full family member and also prevents misconceptions that can occur when children are not provided with accurate information. For example, if you tell her that her father has a tummy ache, she may become fearful when she next develops a tummy ache. As she sees

her father deteriorate and subsequently die, she may then worry that she will die if she gets a stomachache. For this reason, (A) is not correct. (C) may be accurate, but depending on what she wants to know, may be incomplete.
References:

- Bluebond-Langner, DeCicco A. Children's views of death. In: Goldman A, Hain R, Liben S (eds) *Oxford Textbook of Palliative Care for Children* Oxford: Oxford University Press, 2006:85-94
- Himelstein BP, Hilden JM, Boldt AM, Weissman D. Pediatric Palliative Care. *New Engl J Med* 2004;350:1752-1762

4. The correct answer is (E).

   From ages >2 through approximately 6 years, the concept that death is temporary and reversible predominates. Children in this age range manifest different grief behaviors than do adults, such that they often have intense intermittent expressions of grief and then cope by resuming their usual activities i.e. play. For this reason, (A) is not correct. Regarding funeral attendance, this should be offered to Jasmine, and her decision respected. Explaining to her what to expect at the funeral and having a trusted adult known to her who can devote themselves to her during the funeral would be important parts of the preparation and plans, should she choose to attend.
   References:
   - Bluebond-Langner, DeCicco A. Children's views of death. In: Goldman A, Hain R, Liben S (eds) *Oxford Textbook of Palliative Care for Children* Oxford: Oxford University Press, 2006:85-94.
   - Himelstein BP, Hilden JM, Boldt AM, Weissman D. Pediatric Palliative Care. *New Engl J Med* 2004;350:1752-1762

5. The correct answer is (E).

   Neonates and infants have a reduced glomerular filtration rates, as compared to older children and adults. Accordingly, they will have accumulation of drugs or active metabolites excreted by the kidney, unless the dosing interval is lengthened, or the dose is decreased. Children in the 2-6-year age range have an increased hepatic mass relative to adults and thus have increased metabolic clearance of drugs metabolized by the liver, resulting in the need to increase the dose or shorten the dosing interval. In children, many cancers are more easily cured than in adults. By decreasing or eliminating tumor with chemotherapy, many achieve pain relief.
   Reference:
   - Berde CB, Sethna NF. Analgesics for the treatment of pain in children. *New Engl J Med* 2002;347:1094-1103

6. The correct answer is (E).

   Her crib should be avoided because it should be retained as a safe and comforting place for her. Preventing and/or minimizing procedure-related pain and related distress by adequately preparing parents and child for what to expect and providing adequate analgesia and sedation when indicated is recommended.
   Reference:
   - Colins JJ, Wiesman SJ. Management of pain in childhood cancer. In: Schecter NL, Berde CB, Yaster M (eds) *Pain in Infants, Children and Adolescents* Philadelphia: Lippincott Williams & Wilkins, 2003: 617-538.

7. The correct answer is (C).

   (A) is incorrect. Unless a mature or emancipated minor, he is not of legal age. Writing an OOH DNR order without exploring his understanding of his disease, the reasons behind his choices and his cognitive and emotional state and without parental involvement is premature. (B) is not accurate because while he may not have legal authority for medical decision making, there is moral precedent for honoring his choices if based on sound understanding of his prognosis and likely benefits and burdens, among other things. Involvement of his parents in these discussions would also be important for negotiation of such decisions. Deciding to consult psychiatry in evaluation of depression (D) may be appropriate, but not enough detail is provided in the vignette to make this the single best choice.
   Reference:
   - Craig F. Adolescents and young adults. In: Goldman A, Hain R, Liben S (eds) *Oxford Textbook of Palliative Care for Children* Oxford: Oxford University Press, 2006:108-118

8. Answer: (C) "Can you tell me more about why you do not want to tell Kate?"

One the most common difficulties encountered by providers of Pediatric Palliative care is the conflict of how much and when the child should be told of their diagnosis, therapeutic plan and prognosis. The best way to prevent the harm that can come from withholding information is to not let it happen in the first place. Including the child in age- and developmentally appropriate discussions about healthcare decision making from the beginning is recommended, so answer (a) is incorrect.

(b) is obviously incorrect because it is factually incorrect as Dr. Jones told you there were no further therapies. Healthcare providers often do not provide full disclosure to parents out of fear of taking hope away. Research, however, supports the idea that more prognostic disclosure actually correlates with more patterns of hopeful thinking in parents; we often think hope = cure, and while at some level this is true parents' most fundamental hope is that their child is cared for and does not suffer. Having more information about prognosis allows them to make the most informed decision for their child.

(d) is not correct because it fails to account for what the parents and child's overall goals of care are.

This is a tricky question, because although (e) is technically true, it should not be your initial response to the parents' request. Research has shown no parent whose child died regretted being honest with the child about their diagnosis while up to 25% of the parents who did not disclose information regretted the decision after the child's death.

(c) is the correct answer. Healthcare professionals tend to comply with parents' well-intentioned, but potentially harmful requests, for non-disclosure regarding the child's prognosis out of respect for parental decision-making authority. Published guidelines stress the importance of open and honest communication with the child. The parents' request usually stems from uncertainty and fear. The first step is to explore the parents' fears about telling their child.

Suggested Further Reading

- Mack JW, Wolfe J, Cook EF, Grier HE, Cleary PD, Weeks JC. Hope and prognostic disclosure. J Clin Oncol. 2007 Dec 10;25(35):5636-42. doi: 10.1200/JCO.2007.12.6110. PMID: 18065734.
- Kreicbergs U, Valdimarsdóttir U, Onelöv E, Henter JI, Steineck G. Talking about death with children who have severe malignant disease. N Engl J Med. 2004 Sep 16;351(12):1175-86. doi: 10.1056/NEJMoa040366. PMID: 15371575.
- Freyer DR. Care of the dying adolescent: special considerations. Pediatrics. 2004 Feb;113(2):381-8. doi: 10.1542/peds.113.2.381. PMID: 14754953.
- Goldberg A, Frader J. Holding on and letting go: ethical issues regarding the care of children with cancer. Cancer Treat Res. 2008;140:173-94. doi: 10.1007/978-0-387-73639-6_11. PMID: 18283776.

1. Answer: (C) "It is not uncommon for parents to have thoughts of hastening a child's death, but it almost always signals significant emotional distress in the parent."

(a) is incorrect because it is speculative, as is the statement that the parents are "trying to move things along".
(b) is incorrect because it is not only factually not true, it is dismissive of the real conflict that Dr. Jones is encountering.
(d) is incorrect because palliative sedation would only be considering whether the pain is refractory to standard opioid therapy.
(c) is the correct answer. It is almost unbearable for a parent to bear witness to the death of their child. In fact, in one study approximately 1 out of every 3 parents would have considered hastening death for their child under certain circumstances, with uncontrolled pain being the most likely reason.5

Suggested Further Reading

- Dussel V, Joffe S, Hilden JM, Watterson-Schaeffer J, Weeks JC, Wolfe J. Considerations about hastening death among parents of children who die of cancer. Archives of pediatrics & adolescent medicine. 2010;164(3):231-237.

10. Answer: (D) It is an ethical intervention for children who have symptoms that are refractory to standard therapy.

(a) is incorrect as this would be euthanasia which is painless killing of a patient suffering from an incurable and painful disease. The intent is death. (c) is also incorrect because palliative sedation is not the same as euthanasia. Palliative sedation is an ethical intervention to treat refractory symptoms. Death may occur during palliative sedation, but the principle of double effect provides the ethical foundation to justify the practice:

the nature of the act is itself good, or at least morally neutral;
the agent intends the good effect and not the bad either as a means to the good or as an end itself;
the good effect outweighs the bad effect in circumstances sufficiently grave to justify causing the bad effect and the agent exercises due diligence to minimize the harm.

(b) is incorrect because palliative sedation can be performed in both children and adults.

(d) is correct. Palliative sedation is an ethical intervention for both children and adults for the treatment of symptoms that are refractory. How is "difficult" different than "refractory"? Cherny and Portenoy's definition of refractory has three crucial components

1. Intensive efforts short of sedation fail to provide relief

2. Additional invasive or non-invasive treatments are incapable of providing relief

3. Additional therapies are associated with excessive or unacceptable morbidity, or are unlikely to provide relief within a reasonable time frame

Suggested Further Reading

- Cavanaugh TA. Double-effect reasoning: doing good and avoiding evil. Oxford; New York: Clarendon Press Oxford University Press; 2006.
- Cherny NI, Portenoy RK. Sedation in the management of refractory symptoms: guidelines for evaluation and treatment. Journal of palliative care. 1994;10(2):31-38.

GI Symptoms

1. The correct answer (E) is check calcium levels.

It is important to rule out other causes for constipation. This patient has evidence of bone metastasis and in the clinical picture of constipation and confusion hypercalcemia needs to be rule out.

Reference:

- Gardner EC Jr, Hersh T. Primary hyperparathyroidism and the gastrointestinal tract. South Med J 1981; 74:197.

2. The correct answer (B).

The correct answer is (B). Patients with poor water intake are at higher risk of developing fecal impaction again if fiber or bulking agents are used.

Reference:

- Lembo A, Camilleri M. Chronic constipation. N Engl J Med 2003; 349:1360.

3. The correct answer (C).

   Methylnatrexone is contraindicated in patients with clinical evidence of bowel obstruction.

   Reference:
   - Portenoy RK, Thomas J, Moehl Boatwright ML, et al, "Subcutaneous Methylnaltrexone for the Treatment of Opioid-Induced Constipation in Patients with Advanced Illness: A Double-Blind Randomized, Parallel Group, Dose-Ranging Study," *J Pain Symptom Manage*, 2008, 35(5):458-68.
   - Thomas J, Karver S, Cooney GA, et al, "Methylnaltrexone for Opioid-Induced Constipation in Advanced Illness," *N Engl J Med*, 2008, 358(22):2332-43.

4. The correct answer (A).

   The correct answer is (A). Polyethylene glycol is an osmotic agent, docusate is a stool softener, mineral oil is a lubricant and psyllium is a bulky agent.

   Reference:
   - Dipalma JA, Cleveland MV, McGowan J, Herrera JL. A randomized, multicenter, placebo-controlled trial of polyethylene glycol laxative for chronic treatment of chronic constipation. Am J Gastroenterol 2007; 102:1436.

5. The correct answer (D)

   The best treatment and prophylaxis for OIC is daily laxatives. Good fluid intake and ambulation might help with constipation but would not prevent OIC. Keeping a low dose of opioid because of the concern of OIC is not recommended. Pain should be controlled, and laxatives adjusted as needed.

   References:
   - Grunkemeier DM, Cassara JE, Dalton CB, Drossman DA. The narcotic bowel syndrome: clinical features, pathophysiology, and management. Clin Gastroenterol Hepatol 2007; 5:1126.
   - Clemens KE, Klaschik E. Management of constipation in palliative care patients. Curr Opin Support Palliat Care 2008; 2:22

6. The correct answer (A).

   You should discontinue the TPN to honor patient wishes. Her wishes are to focus on the quality of life to avoid any unnecessary sufferings like frequent blood draws, hospitalizations due to central venous catheter complications etc. Patient has the decision-making capacity and exhibits clear understanding of the consequences.
   Studies have shown benefit in survival rate in selected patients with malignant bowel obstruction, but the rate of complications associated with the procedure is higher. Routine use of TPN is not recommended and the decision to use for long term purpose should be made with caution and should be reevaluated regularly.

   References:
   Fan BG. Parentera l nutrition prolongs the survival of patients associated with malignant gastrointestinal obstruction. JPEN J Parenter Enteral Nutr. 2007;31(6):508–510.

   Bozzetti F, Cozzaglio L, Biganzoli E, et al. Quality of life and length of survival in advanced cancer patients on home parenteral nutrition. Clin Nutr. 2002;21(4):281–288.

7. The correct answer (D).

Correction of anemia has been associated with improvement in overall health-related quality of life (QOL) and fatigue. Also, course of corticosteroids will improve cancer related fatigue and benefit outweighs the risk in patient will terminal cancer and limited survival.
Nonpharmacological options like cognitive behavioral therapy, other techniques to conserve and preserve energy and referral to appropriate exercise and integrative medicine programs can be helpful.

References:
Littlewood TJ, Kallich JD, San Miguel J, et al. Efficacy of darbepoetin alfa in alleviating fatigue and the effect of fatigue on quality of life in anemic patients with lymphoproliferative malignancies. J Pain Symptom Manage 2006; 31:317.
Bruera E, Roca E, Cedaro L, et al. Action of oral methylprednisolone in terminal cancer patients: a prospective randomized double-blind study. Cancer Treat Rep 1985; 69:751.
Yennurajalingam S, Frisbee-Hume S, Palmer JL, et al. Reduction of cancer-related fatigue with dexamethasone: a double-blind, randomized, placebo-controlled trial in patients with advanced cancer. J Clin Oncol 2013; 31:3076.
Bower JE, Bak K, Berger A, et al. Screening, assessment, and management of fatigue in adult survivors of cancer: an American Society of Clinical oncology clinical practice guideline adaptation. J Clin Oncol 2014; 32:1840.

8. The correct answer(A).

Metoclopramide is a prokinetic agent which blocks the dopamine receptors and in higher doses, also blocks serotonin receptors enhances the response to acetylcholine of tissue in upper GI tract causing enhanced motility and accelerated gastric emptying without stimulating gastric, biliary, or pancreatic secretions. Its use is contraindicated in complete bowel obstruction due to risk of bowel perforation.
On the other hand, corticosteroids, haloperidol and Octreotide have been studied with variable effectiveness but no contraindications to complete bowel obstruction.

References:
Mercadante S, Porzio G. Octreotide for malignant bowel obstruction: twenty years after. Crit Rev Oncol H 73.Feuer DJ, Broadley KE.
Corticosteroids for the resolution of malignant bowel obstruction in advanced gynaecological and gastrointestinal cancer. Cochrane Database Syst Rev 2000; CD001219.ematol 2012; 83:388.
Perkins P, Dorman S. Haloperidol for the treatment of nausea and vomiting in palliative care patients. Cochrane Database Syst Rev 2009; :CD006271.

End Stage Heart Disease and Renal

1. The correct answer is (C).

Explanation: The ACC/AHA staging system emphasizes the development and progression of heart failure. Unlike the New York Heart Association (NYHA) classification, it does not allow patients to move to an earlier stage. Stage A includes patients who are at high risk for developing heart failure but are without structural heart disease or symptoms of heart failure. Stage B includes patients with structural heart disease such as valvular abnormalities and low ejection fraction but without signs or symptoms of heart failure. Stage C includes patients with structural heart disease with prior or current symptoms of heart failure. Stage D includes patients with refractory heart failure requiring specialized interventions such as heart transplant, chronic inotropes, or left ventricular assist devices. Only patients in Stages B through D can be classified using the NYHA functional classes.

Reference: https://www.jacc.org/doi/pdf/10.1016/j.jacc.2020.11.022.

1. The correct answer is (A).

Explanation: Due to the scarcity of organs, an increasing number of patients are undergoing LVAD placement as final phase of therapy rather than a bridge to cardiac transplantation. Studies have observed that patients receiving LVADs have an improvement in functional capacity, quality of life, and survival. Studies suggest average survival after LVAD placement is 1 to 2 years compared with 6-month survival with optimal medical management.

Reference: https://www.capc.org/fast-facts/205-mechanical-circulatory-support-advanced-heart-failure/. Republished in May 2013.

2. The correct answer is (C).

Explanation: Heart failure patients with worse heart-failure related health status had a greater number of physical symptoms, higher depression scores, and lower spiritual well-being as compared to patients with advanced cancer. Both groups had similar symptoms after adjustment for education and income.

Reference: Bekelman DB, Dy SM, Becker DM, et al. Spiritual well-being and depression in patients with heart failure. J Gen Intern Med. 2007;22:470-477.

4. The correct answer is (C).

Explanation: Greater spiritual well-being is most likely associated with a lower incidence of depression. A study observed that in a sample of patients aged 60 years and older with New York Heart Association class II-IV heart failure that greater spiritual well-being was strongly inversely correlated with depression. In a regression analysis accounting for gender, income, and other risk factors for depression, greater spiritual well-being continued to be significantly associated with less depression.

Reference: Bekelman DB, Dy SM, Becker DM, et al. Spiritual well-being and depression in patients with heart failure. J Gen Intern Med. 2007;22:470-477.

5. The correct answer is (B).

Explanation: Sertraline, fluoxetine, fluvoxamine, and paroxetine , selective serotonin reuptake inhibitors (SSRIs) are the most commonly used antidepressants in patients with heart failure. They improve platelet function, stabilize the endothelium, and provide anti-inflammatory benefit, all of which should benefit HF pathophysiology. SSRIs are the most preferable choice in the elderly due to their low side effect profile . It is important to monitor

for the fluid retention and hyponatremia in patients with renal dysfunction. Among all the SSRIs, Sertraline is unlikely to have any effect on QT prolongation and drug-drug interaction is minimal.
serotonin-norepinephrine reuptake inhibitors (SNRIs) such as Venlafaxine need to be used with caution due to increase tachycardia and HF exacerbation. Similarly, Mirtazapine can be used as second line treatment in patients with poor appetite and depressed mood. Caution need to be paid as this also can cause exacerbation of HF symptoms and mild increase in QT interval. Tricyclic antidepressants are only recommended with expert consultation due to the possibility of negative inotropy, QT-prolongation, and significant antimuscarinic side effects.

Reference:

Alpert CM, Smith MA, Hummel SL, Hummel EK. Symptom burden in heart failure: assessment, impact on outcomes, and management. Heart Fail Rev. 2017 Jan;22(1):25-39. doi: 10.1007/s10741-016-9581-4. PMID: 27592330; PMCID: PMC6042838.

Dyspnea/Cough

1. The correct answer is (C).

Explanation: First line treatment of dyspnea is reversal of underlying etiologies when possible. However, in patients with advanced illness such as cancer or COPD, when this is not possible, opioids in multiple studies have shown to help alleviate symptoms of dyspnea. For patients with advanced cancer, studies have shown no change in incidence of somnolence, anxiety, respiratory rate, or oxygen saturation when compared with placebo. For patients with COPD with dyspnea, opioids have been seen to reduce breathlessness and improve exercise tolerance.

References:
Ben-Aharon I, Gafter-Gvili A, Paul M et al. Interventions for alleviating cancer-related dyspnea: A systematic review. J Clin Oncol 2008;26:2396–2404
Davies, John. Noninvasive Respiratory Support at the End of Life. Respiratory Care. Jun 2019; 64 (6): 701-71
LeGrand SB, et al. Opioids, respiratory function, and dyspnea. Am J Hospice Palliat Care. January/February 2003;20:57–61
Katri Elina Clemens, Eberhard Klaschik,. Symptomatic Therapy of Dyspnea with Strong Opioids and Its Effect on Ventilation in Palliative Care Patients. Journal of Pain and Symptom Management. April 2007; 33 (4): 473-481

2. The correct answer is (E).

Explanation: Studies have found that supplemental oxygen can help with dyspnea relief among patients with hypoxemia, but not those without hypoxemia. Supplemental oxygen should still be considered cautiously for pros and cons as there still can be costs with regards to resources, staffing, and unintended goals of prolonging the dying process. The effect of air movement across nasal passages may contribute towards dyspnea relief in some patients.

References:
Hui D, Hernandez F, Urbauer D, Thomas S, Lu Z, Elsayem A, Bruera E. High-Flow Oxygen and High-Flow Air for Dyspnea in Hospitalized Patients with Cancer: A Pilot Crossover Randomized Clinical Trial. Oncologist. 2021 May;26(5):e883-e892.
Davies, John. Noninvasive Respiratory Support at the End of Life. Respiratory Care. Jun 2019; 64 (6): 701-71

Ben-Aharon I, Gafter-Gvili A, Paul M et al. Interventions for alleviating cancer-related dyspnea: A systematic review. J Clin Oncol 2008;26:2396–2404.

3. The correct answer is (E).

   Explanation: Opioids given in via IV, oral, and subcutaneous route can symptomatically help improve dyspnea.

   References:
Ben-Aharon I, Gafter-Gvili A, Paul M et al. Interventions for alleviating cancer-related dyspnea: A systematic review. J Clin Oncol 2008;26:2396–2404
LeGrand SB, et al. Opioids, respiratory function, and dyspnea. Am J Hospice Palliat Care. January/February 2003;20:57–61

4. The correct answer is (A).

   Explanation: There is insufficient evidence to support the use of high flow oxygen in patients who are not hypoxemic and and measures to try to address underlying etiologies if able should be attempted along with opioids, high flow air with a fan, as well as psychosocial support can help to improve symptom burden.

   References:
Hui D, Hernandez F, Urbauer D, Thomas S, Lu Z, Elsayem A, Bruera E. High-Flow Oxygen and High-Flow Air for Dyspnea in Hospitalized Patients with Cancer: A Pilot Crossover Randomized Clinical Trial. Oncologist. 2021 May;26(5):e883-e892.
Davies, John. Noninvasive Respiratory Support at the End of Life. Respiratory Care. Jun 2019; 64 (6): 701-71
Ben-Aharon I, Gafter-Gvili A, Paul M et al. Interventions for alleviating cancer-related dyspnea: A systematic review. J Clin Oncol 2008;26:2396–2404.

5. The correct answer is (E).

   Explanation**:** All of the above has shown some improvement of cancer-related cough in patients, with some positive effect observed with opioids and sodium cromoglycate.

   References:
Molassiotis A, Smith JA, Mazzone P, Blackhall F, Irwin RS; CHEST Expert Cough Panel. Symptomatic Treatment of Cough Among Adult Patients With Lung Cancer: CHEST Guideline and Expert Panel Report [published correction appears in Chest. 2017 Nov;152(5):1095]. *Chest*. 2017;151(4):861-874. doi:10.1016/j.chest.2016.12.028
Molassiotis A, Bailey C, Caress A, Tan JY. Interventions for cough in cancer [published online ahead of print, 2015 May 19]. Cochrane Database Syst Rev. 2015;5(5):CD007881. doi:10.1002/14651858.CD007881.pub3

Prognostication

1. The correct answer is (B).

   Explanation: Studies have consistently demonstrated that clinicians over-estimate survival by 2-5 fold

   References:

Christakis NA, Lamont EB. Extent and determinants of error in doctors' prognoses in terminally ill patients: prospective cohort study. BMJ. 2000 Feb 19;320(7233):469-72.

2. The correct answer is (B).

Explanation: The Palliative Prognostic Score consists of 5 variables: clinician prediction of survival, dyspnea, Karnofsky performance status, total white blood cell count and lymphocyte percentage. The other scales do not require laboratory tests.

References: Pirovano M, Maltoni M, Nanni O, Marinari M, Indelli M, Zaninetta G, Petrella V, Barni S, Zecca E, Scarpi E, Labianca R, Amadori D, Luporini G. A new palliative prognostic score: a first step for the staging of terminally ill cancer patients. Italian Multicenter and Study Group on Palliative Care. J Pain Symptom Manage. 1999 Apr;17(4):231-9.

3. The correct answer is (B).

Explanation: The life expectancy of dialysis patients is 25% of non-renal individuals one year after starting dialysis. The annual mortality rate for dialysis is 25%. Once dialysis is stopped, patients have an average survival of 7-10 days.

References: O'Connor NR, Dougherty M, Harris PS, Casarett DJ. Survival after dialysis discontinuation and hospice enrollment for ESRD. Clin J Am Soc Nephrol. 2013 Dec;8(12):2117-22.

4. The correct answer is (E).

Explanation: The median survival for stage IV heart failure is 10 months, stage V chronic kidney disease (2-3 years), newly diagnosed AIDS (>5 years), COPD with FEV1 of 35% (2-4 years) and malignant hypercalcemia (3-4 months).

References: Valerie AJ Potter. Management of malignant hypercalcaemia in the palliative population. GM, (09), 2014

5. The correct answer is (E).

Explanation: Elevated bilirubin and INR are both indicative of poor liver function and poor prognosis. Elevated bilirubin and creatinine are both included in the MELD model.

References: Sanchez W, Talwalkar JA. Palliative care for patients with end-stage liver disease ineligible for liver transplantation. Gastroenterol Clin North Am. 2006 Mar;35(1):201-19.

6. The correct answer is (D).

Explanation: The onset of death rattle, respiration with mandibular movement, peripheral cyanosis and pulselessness of radial artery that have been observed in past studies are 57, 7.6 hours, 5.1 hours, and 2.6 hours.

References: Morita T, Ichiki T, Tsunoda J, Inoue S, Chihara S. A prospective study on the dying process in terminally ill cancer patients. Am J Hosp Palliat Care. 1998 Jul-Aug;15(4):217-22.

7. The correct answer is (D).

Drooping of nasolabial fold and hyperextension of neck are classic signs of impending death. Tachycardia and fever may occasionally occur in dying patients, but are not predictive of impending death.

References: Hui, David et al. “Bedside clinical signs associated with impending death in patients with advanced cancer: preliminary findings of a prospective, longitudinal cohort study.” Cancer vol. 121,6 (2015): 960-7. doi:10.1002/cncr.29048

8. The correct answer is (D).

Explanation: Death rattle is secondary to secretions in the airways, and should be distinguished from grunting of vocal cords. In a small randomized trial, scopolamine was not better than normal saline. In a subsequent larger randomized trial comparing atropine, hyoscine butylbromide and scopolamine, no difference was found. Grade 0 death rattle is not audible, grade 1 is audible near the patient, grade 2 is clearly audible at the end of bed, and grade 3 is clearly audible at the door of the room.

References: Wee, B, and R Hillier. “Interventions for noisy breathing in patients near to death.” The Cochrane database of systematic reviews vol. 2008,1 CD005177. 23 Jan. 2008, doi:10.1002/14651858.CD005177.pub2

Wildiers H, Dhaenekint C, Demeulenaere P, Clement PM, Desmet M, Van Nuffelen R, Gielen J, Van Droogenbroeck E, Geurs F, Lobelle JP, Menten J; Flemish Federation of Palliative Care. Atropine, hyoscine butylbromide, or scopolamine are equally effective for the treatment of death rattle in terminal care. J Pain Symptom Manage. 2009 Jul;38(1):124-33.

Grief & Bereavement

1. The correct answer is (E).

Explanation: In 1942, 500 people died in Boston in what is known as the Coconut Grove nightclub fire. Eric Lindemann, a researcher at Massachusetts General Hospital at the time, worked with the survivors and the bereaved families of that tragedy. In 1994 published what is regarded as the first systematic study on the effects of, and time course of, grief.

He found that normal grief involves: Somatic distress with numbness, pre-occupation with sad memories of the deceased, guilt, anger, loss of regular patterns of conduct.

Emotional distress: this generally occurs in waves, with a range of associated affects (cognitive processes become dominated by memories - story telling, reminiscing, and conversations about deceased). Physical responses include insomnia, anorexia/weight loss, fatigue, and non-specific aches and pains.

References: Lindemann E. Symptomatology and management of acute grief. Am J Psychiatry 1994; 151(6 Suppl):155-60.

PDQ Supportive and Palliative Care Editorial Board. Grief, Bereavement, and Coping With Loss (PDQ®): Health Professional Version. 2020 Dec 3. In: PDQ Cancer Information Summaries [Internet]. Bethesda (MD): National Cancer Institute (US); 2002-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK66052/

Allen JY, Haley WE, Small BJ, Schonwetter RS, McMillan SC. Bereavement among hospice caregivers of cancer patients one year following loss: predictors of grief, complicated grief, and symptoms of depression. J Palliat Med. 2013 Jul;16(7):745-51.

2. The correct answer is (A).

Explanation: Palliative care teams are ideally placed to recognize those at risk of prolonged grief disorder. When interventions to treat grief are directed to all individuals, the benefits are unclear and may cause harm. However, when therapy for grief is directed at individuals at increased risk for prolonged grief disorder, benefits arise.

The Oxford Textbook of Palliative Medicine cites several risk factors for complicated grief and any one of which increases an individual's risk. Risk factors include: premature death within a life cycle (e.g., death of a child), unexpected deaths (septic neutropenia during chemo), deaths that are perceived as traumatic, stigmatized (AIDS, suicide); the personality and coping style of the bereaved can increase risk of complicated grief, as can a history of psychiatric disorders and a cumulative experience of losses; the nature of the relationship with the deceased - overly dependent (clinging), or ambivalent; and dysfunctional families (those with poor cohesiveness, difficulty communicating, high conflict), the socially isolated (new migrant, new residence), and those with a poor support system.

References: The Oxford Textbook of Palliative Medicine, Fourth Edition, 2010, p1488-1489

3. The correct answer (A).

   Explanation: In a study examining the stages of grief, family members were asked to rate different symptoms of grief starting at two months after the loss of a loved one. Yearning was the most frequent negative indicator of grief. Depression was the second most common negative indicator of grief and peaked at 6 months after the death of a loved one. A high degree of acceptance was also noted.

   References: Maciejewski PK, Zhang B, Block SD, Prigerson HG. An empirical examination of the stage theory of grief. JAMA 2007;297(7):716-723

4. The correct answer is (B).

   Explanation: To differentiate between major depression and prolonged grief disorder in patients with advanced cancer is difficult. Neurovegetative symptoms of depression-anorexia, fatigue, and insomnia - overlap with the symptoms associated with a terminal illness and are excluded as indicators of major depression by some experts. Specific clinical indicators for major depression include feelings of (pervasive) hopelessness, anhedonia, excessive guilt, worthlessness, and (persistent) suicidal ideations.

   Depression is difficult to diagnose in patients with cancer. The symptoms of cancer often overlap with symptoms of depression. In a recent systematic review, the prevalence of depression in outpatients, 5-16%; inpatients, 4-14%, mixed out and inpatient population, 4-11% and palliative care patients, 7-49%. In the palliative care patient population, studies show that when assessed by experts the prevalence of depression is around 7%, but when patients are interviewed by non-experts, the prevalence varies widely ranging from 22% to 49%. Regardless, clinicians should have a low threshold for diagnosing and treating depression and triggers for treatment should start by asking about depressed mood, hopelessness, suicidality, and anhedonia.

   References: Wilson KG, Chochinov HM, Skirko MG, et al. Depression and Anxiety Disorders in Palliative Cancer Care. J Pain Symptom Mange 2007; 33(2):118-129.

   Chochinov HM, Wilson KG, Enns M, Lander S. Prevalence of depression in the terminally ill: effects of diagnostic criteria and symptom threshold judgments. Am J Psychiatry. 1994; 154(5):674-676.

   Walker J, holm Hansen C, Martin P, et al. Prevalence of depression in adults with cancer: a systematic review. Ann Oncol. 2012 [Epub ahead of print]

5. The correct answer is (E).

   Explanation: We cannot assume that diagnosis and awareness of a life threatening illness or sufficient time lapse from illness until death would mean anticipatory grief to be present. Risk factors for anticipatory grief include individuals with more dependent relationships, those with limited external social support, discomfort with the close relationships, lower level of education, or those with neuroticism or experiencing spiritual crisis. When death is

accepted by the patient and their family or social network, anticipatory grief is less likely to occur. It is important to remember that grief after unanticipated death differs from anticipatory grief.

References: PDQ Supportive and Palliative Care Editorial Board. Grief, Bereavement, and Coping With Loss (PDQ®): Health Professional Version. 2020 Dec 3. In: PDQ Cancer Information Summaries [Internet]. Bethesda (MD): National Cancer Institute (US); 2002-. Available from: https://www.ncbi.nlm.nih.gov/books/NBK66052/

6. The correct answer is (E).

   Explanation: When comforting a grieving individual avoid statements about the griever, rationalizing the loss or explaining the loss, minimizing the loss or a placing a timeline for the death.

   References: http://grief.com/helpful-tips/the-10-best-and-worst-things-to-say-to-someone-in-grief/

7. The correct answer is (C).

   References: https://www.medicare.gov/coverage/hospice-care

Symptom Management

Answers:

1. The correct answer is (E).

   Explanation: Cancer related fatigue is multi-factorial and can be related with physiological causes including neuroendocrine alterations, autonomic nervous system dysregulation, inflammation, and psychological factors.

   References: Bower, Julienne E. “Cancer-related fatigue--mechanisms, risk factors, and treatments.” Nature reviews. Clinical oncology vol. 11,10 (2014): 597-609. doi:10.1038/nrclinonc.2014.127

2. The correct answer is (E).

   Explanation: Fatigue is a multidimensional syndrome, often with multiple contributing causes. Studies have shown that fatigue is correlated with the severity of psychological symptoms (e.g., anxiety and depression), pain, sleep disturbances, dyspnea, anorexia, anemia, and opioid dose (if used).

   Preliminary studies have shown that corticosteroids can reduce symptoms such as fatigue, pain, poor appetite, and nausea and improve the overall quality of life in patients with advanced cancer. It is unclear if there are any differences between types of corticosteroids, because dexamethasone appears to be the most intensively investigated. The overall adverse reaction profile of dexamethasone is well understood. It appears that the severity of most of its toxic effects is dose dependent. Side effects may include infection, oral thrush, insomnia, mood swings, myalgia, and elevation of blood glucose.

   Prolonged use of dexamethasone (for more than 1 month) in some patients will cause gastritis (particularly if the patient is concurrently using nonsteroidal anti-inflammatory drugs [NSAIDs]), hiccups, edema, muscle weakness, easy bruising, dizziness, unusual hair growth, and slow wound healing.

   References: Yennurajalingam S, Bruera E (2007). Palliative management of fatigue at the close of life: “It feels like my body is just worn out.” JAMA 297:295–304.

3. The correct answer is (D).

Explanation: Chronic nausea is significant problem in patients with advanced cancer. In patients who are on opioids or wherein chemotherapy or radiation therapy or malignant bowel obstruction is a not a cause metoclopramide is indicated. Young male patients or prolonged use of metoclopramide (>3 months) are at risk for extrapyramidal side-effects such as akathisia or tardive dyskinesia. Hence appropriate risk benefit assessment and close monitoring and discontinuation should be considered.

References: Bruera E, Belzile M, Neumann C, et al. A double-blind, crossover study of controlled-release metoclopramide and placebo for the chronic nausea and dyspepsia of advanced cancer. J Pain Symptom Manage 2000; 19:427.

4. The correct answer is (E).

   Explanation: Chronic constipation is common and is a major source of distress among patients with advanced cancer. Among the various contributory factors are age, decreased oral intake, medications (especially opioids, 5-HT3 antagonist antiemetics, iron and antidepressants), metabolic abnormalities (particularly dehydration, hypercalcaemia, hypokalaemia and uraemia), neuromuscular dysfunction (autonomic neuropathy and myopathy), structural issues (abdominal or pelvic mass, radiation fibrosis) and pain.

   References: Candy B, Jones L, Larkin PJ, Vickerstaff V, Tookman A, Stone P. Laxatives for the management of constipation in people receiving palliative care. Cochrane Database of Systematic Reviews 2015, Issue 5. Art. No.: CD003448. DOI: 10.1002/14651858.CD003448.pub4. Accessed 15 September 2021.

5. The correct answer is (A).

   Explanation: In many patients, the underlying cause(s) of nausea may be difficult to determine. Opioids are one of the most common causes of chronic nausea in terminally ill patients. Although opioid-induced nausea is usually transient and responds well to antiemetics, some patients, particularly those receiving high doses of opioids may continue to experience chronic and severe nausea.

   Other medications causing nausea include nonsteroidal anti-inflammatory drugs (NSAIDs) and antibiotics.

   Constipation (especially due to opioids) is a common complication in terminally ill patients and may cause or aggravate nausea. Factors that predispose to the development of constipation include opioid analgesics, immobility, poor oral intake and dehydration, autonomic failure, and other medications. The etiology of nausea may be related to the underlying disease. For instance, in cancer patients, nausea is often present in association with intra-abdominal disease, such as liver metastasis, bowel obstruction from mechanical compression by tumor, or peritoneal carcinomatosis. Metoclopramide hydrochloride, a substituted benzamide, has a dual mechanism of action. It is predominantly a dopaminergic antagonist but also has prokinetic effects via the cholinergic system in the myenteric plexus. Local acetylcholine release, mediated by the 5-HT4 receptor, appears to play an important role in reversing gastroparesis and bringing about normal peristalsis in the upper GI tract. Because of its short half-life (3 hours), metoclopramide requires frequent administration via oral or parenteral routes. Continuous infusion of metoclopramide can be given when intermittent doses fails to control nausea. Side effects include akathisia and extrapyramidal reactions (more likely in younger patients), which may not be dose dependent. Anticholinergic medications, including tricyclic antidepressants (TCAs), antagonize the prokinetic effect so should not be co-administered. Oral laxatives such as Sennakot (stimulants) are an effective initial treatment for opioid induced constipation.

   References: Bruera E, Suarez-Almazor M, Velasco A, et al. The assessment of constipation in terminal cancer patients admitted to a palliative care unit: a retrospective review. J Pain Symptom Manage 9(8):515–519.

6. The correct answer is (D).

Explanation: Bowel obstruction is a common and distressing complication of intra-abdominal cancer. Impairment to the aboral passage of intestinal contents may result from either mechanical obstruction or failure of normal intestinal motility in the absence of an obstructing lesion (ileus).Intestinal obstruction may be categorized according to the degree of obstruction to the flow of intestinal contents (partial or complete), the absence or presence of intestinal ischemia (simple or strangulated), and the site of obstruction (small intestinal or colonic).

The three most common causes of small bowel obstruction (SBO) are postoperative intra-abdominal adhesions, hernias, and neoplasms. In the palliative care setting, cancer is usually the underlying cause. Bowel obstruction is particularly common in patients with intra-abdominal malignancies. Contrast X-rays may help in defining the site and the extent of the obstruction, including the accompanying dis-motility. Barium provides excellent radiological definition, but it is not absorbed and may interfere with subsequent endoscopic procedures or cause severe impaction.

Gastrografin is preferable because it offers similar radiological definition. In some circumstances; it is useful in restoring the intestinal transit in reversible obstruction.

An abdominal CT scan is useful in evaluating the global extent of malignancy and aids in making therapeutic decisions regarding further treatment. CT findings of obstruction are similar to traditional radiographic findings: disparate dilation of proximal bowel loops compared with more distal ones. Comparative studies have shown that CT is superior to plain-film radiography in detecting intestinal obstruction and in determining the cause of obstruction. Studies have shown CT sensitivities ranging from 90% to 95% in detecting obstruction, with no false-positive examinations.

Anti-emetics including ondansetron and anticholinergics or octreotide to decrease GI fluid volumes along with gastric decompression if necessary, may be warranted. Dexamethasone may also be used to reduce peri-tumor inflammation.

References: Feuer, D J, and K E Broadley. “Corticosteroids for the resolution of malignant bowel obstruction in advanced gynaecological and gastrointestinal cancer.” The Cochrane database of systematic reviews vol. 2000,2 (2000): CD001219. doi:10.1002/14651858.CD001219

Prommer E. Anticholinergics in palliative medicine: an update. Am J Hosp Palliat Care. 2013 Aug;30(5):490-8.

Hisanaga T, Shinjo T, Morita T, Nakajima N, et al. (2010). Multicenter prospective study on efficacy and safety of octreotide for inoperable malignant bowel obstruction. Jpn J Clin Oncol 40(8):739–745.

7. The correct answer is (E).

Explanation: Benzodiazepines are used because of their sedative properties to reduce the time to sleep onset and to improve sleep efficiency. Unfortunately, tolerance to these medications occurs rapidly and their prolonged use can cause sleep disturbances, such as fragmented sleep and dependence on medication for sleep onset.

In addition, several side effects have been observed with benzodiazepines, such as daytime sedation, delirium, and fatigue, particularly in the elderly and in those with impaired processing of the medications. Furthermore, benzodiazepines have the potential to exacerbate respiratory suppression when combined with opioids, as has been described with methadone, even at a low dose.

References: Ohayon M, Lader M (2002). Use of psychotropic medication in the general population of France, Germany, Italy, and the United Kingdom. J Clin Psychiatry 63:817–825.

Drover D (2004). Comparative pharmacokinetics and pharmacodynamics of short-acting hypnosedadives: zaleplon, zolpidem, and zopiclone. Clin Pharmacokinet 43:227–238.

Corkery J, Schifano F, Ghodse A, Oyefeso A (2004). The effects of methadone and its role in fatalities. Hum Psychopharmacol 19:565–576.

8. The correct answer is (C).

   Explanation: Psychostimulants such as Methylphenidate have been used treat opioid induce sedation. Both fatigue and depression in patients receiving palliative care can be treated with the psycho-stimulants such as methylphenidate. Psychostimulants act rapidly and are well tolerated. Psychostimulants are generally safe. However, they should be used with caution in patients with heart disease or cognitive disturbances (e.g., delirium). The role of psychostimulants in the management of fatigue in terminally ill patients needs to be defined by randomized controlled trials.

   References: Bruera E, Miller MJ, Macmillan K, Kuehn N. Neuropsychological effects of methylphenidate in patients receiving a continuous infusion of narcotics for cancer pain. Pain 1992; 48:163.

   Berger AM, Abernethy AP, Atkinson A et al. Cancer-related fatigue. J Natl Compr Canc Netw. 2010 Aug; 8(8):904-31.

Critical Care Pulmonary, Discontinuation of Technological Support and Restless Leg Syndrome

Scenario 1

1. The correct answer is (E).

2. The correct answer is (D).

   Discussion:

   Prior to convening family meeting, you should obtain as much information as possible to understand patient and patient's family cultural and spiritual background that may influence patient's family decision making. Available yourself to assistance from the multidisciplinary team input to understand the patient's background as well as help during the family meeting.

   Declaring a patient brain dead can cause a lot of distress to patient's family. Attempts should be made this process as smooth as possible by spending time with patient's family discussing process as detailed as possible. Provide support for patient's family in a multidisciplinary fashion.

   References: Doolen J, York NL: Cultural differences with end-of-life care in the critical care unit Dimens Crit Care Nurs 26:194, 2007

   - Lipson JG, Dibble SL. Culture and clinical care. San Francisico (CA); UCSF Nursing Press; 2005.
   - Wijdicks EF, Varelas PN, Gronseth GS, et al. Evidence-based guideline update: determining brain death in adults: report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2010; 74:1911.

Scenario 2

3. The correct answer is (E).

4. The correct answer is (E).
5. The correct answer is (A).
6. The correct answer is (E).

Discussion:

In preparation to convene a family meeting, one should obtain as much information as possible about patient's medical condition, religious and cultural background as well as family support. This information can be obtained from ICU physician, social worker, ICU nurse and or chaplaincy.

The more prepare you are prior to the meeting the smother the family meeting will occur. Also, the information gathered will help you understand what patient's family decision making is on. Furthermore, the multidisciplinary team can give insight to patient's family that will assist with end of life discussions.

Patient's family members are at increased risk for complicated grief and attempts should be made to determine who is at risk and also provide support and or refer to appropriate medical personnel.

References:

- Anderson WG, Arnold RM, Angus DC, Bryce CL. Posttraumatic stress and complicated grief in family members of patients in the intensive care unit. J Gen Intern Med 2008;23:1871-6
- Doolen J, York NL: Cultural differences with end-of-life care in the critical care unit. Dimens Crit Care Nurs 26:194, 2007
- Lipson JG, Dibble SL. Culture and clinical care. San Francisico (CA); UCSF Nursing Press; 2005.

Scenario 3

7. The correct answer is (C).
8. The correct answer is (C).
9. The correct answer is (D).
10. The correct answer is (A).

Discussion:

When convening a family meeting in order to obtain agreement to proceed with terminal extubation, attempts should be made to get all family members in agreement in order to prevent increase distress and discord between family members. Also need to consider that family member may relieve the decision for a

prolonged period after the patient dies, also the distress of the decision making can lead to post traumatic stress disorder.

Explaining the process of terminal extubation as much as possible, anticipating potential distress on patient's family prior to proceeding with the terminal extubation will help the family through the process.

Determining a cultural and/or religious preferences or beliefs prior to proceeding with the terminal extubation and making the necessary arrangements will allow for family members to honor patient's wish and also decrease some the distress of the family. In addition, obtaining this information will help prepare and make the ICU staff aware of any particular cultural and or religious practices.

References:

- Gaeta S, Price KJ, End of Life Issues in Critically Ill Cancer Patients. Critical Care Clinics - January 2010 (Vol. 26, Issue 1, Pages 219-227.
- Kuschner WG, Gruenewald DA, Clum N, et al. Implementation of ICU palliative care guidelines and procedures: a quality improvement initiative following an investigation of alleged euthanasia. Chest 2009; 135:1360.
- Lipson JG, Dibble SL. Culture and clinical care. San Francisico (CA); UCSF Nursing Press; 2005.

11. Correct answer A
Explanation: Patients with advanced cancer who received CPR have a poor prognosis, with 5-15% CPR success and a median survival after discharge of less than 1 month.
The predicted factors for a failure to survive are: sepsis prior to the CPR event, creatinine >1.5 mg/dl, metastatic cancer, dementia, and performance status.

Reference:
Outcome of stage IV cancer patients receiving inhospital cardiopulmonary resuscitation: a population-based cohort study: Meng_Rui Lee et all ; Nature July /2019

12. Correct answer D
Explanation: Feeding tubes are not associated with prevention or improved healing of a pressure ulcer. Rather, our findings suggest that the use of PEG tube is associated with increased risk of pressure ulcers among NH residents with ACI
For mortality rate, patients with advanced dementia with tube feeding are associated with significantly higher mortality rate. Tube feeding did not prolong the survival period. Sensitivity analysis demonstrated that TF has a high risk of pneumonia and pressure sores compared with no-TF. Finally, tube feeding did not improve nutritional status, including albumin levels, hemoglobin levels, and cholesterol concentration

Reference:

- Teno JM, Gozalo P, Mitchell SL, Kuo S, Fulton AT, Mor V. Feeding tubes and the prevention or healing of pressure ulcers. Arch Intern Med. 2012 May 14; 172(9): 697-701.
- Lee YF, Hsu TW, Liang CS, Yeh TC, Chen TY, Chen NC, Chu CS. The Efficacy and Safety of Tube Feeding in Advanced Dementia Patients: A Systemic Review and Meta-Analysis Study. J Am Med Dir Assoc. 2021 Feb;22(2):357-363.

End-stage COPD & ICU care

1. The correct answer is (C).

   The evidence for home oxygen use is provided by two studies, one by the Medical Research Council Working Party (Lancet 1981; 1 (8222):681–6.) and the other by the Nocturnal Oxygen Therapy Trial Group (NOTT). These studies evaluated the impact of long-term oxygen therapy on survival in patients with COPD. They do not address the impact of the oxygen on dyspnea, function, or quality of life. So, while it is clear that supplemental oxygen improves survival in chronically hypoxemic patients with COPD, there are conflicting data about its ability to relieve dyspnea.

   References:

   - Nocturnal Oxygen Therapy Trial Group. Continuous or nocturnal oxygen therapy in hypoxemic chronic obstructive lung disease: a clinical trial. Annals of Internal Medicine 1980; 93(3):391–8.
   - Parshall MB, Schwartzstein RM, Adams L, et al. An Official American Thoracic Society Statement: Update on the Mechanisms, Assessment, and Management of Dyspnea. Am J Respir Crit Care Med 2012 (4); 185:435–452.
   - Abernethy AP, McDonald CF, Frith PA, et al. Effect of palliative oxygen versus room air in relief of breathlessness in patients with refractory dyspnea: a double-blind, randomized controlled trial. Lancet 2010; 376(9743): 784–93.

2. The correct answer is (B).

   Noninvasive ventilatory support does not inherently conflict with palliative care or hospice philosophy. Any intervention that helps achieve the patient's and family's goals is permissible. If BiPAP relieves dyspnea it may be used. But BiPAP is often poorly tolerated by end-stage COPD patients because high pressures are usually required. It can actually increase the sensation of claustrophobia and anxiety. Dyspnea and air hunger are generally better managed by other means. BiPAP rarely improves the quality of life in end-stage COPD patients, unlike when it is used for patients with amyotrophic lateral sclerosis.

   References:

   - Smith T, Davidson PM, Lam LT, et al. The use of non-invasive ventilation for the relief of dyspnea in exacerbations of chronic obstructive pulmonary disease; a systematic review. Respirology 2012; 17:300–307.
   - Parshall MB, Schwartzstein RM, Adams L, et al. An Official American Thoracic Society Statement: Update on the Mechanisms, Assessment, and Management of Dyspnea. Am J Respir Crit Care Med 2012 (4); 185:435–452.

3. The correct answer is (B).

   Unfortunately, survival after in-hospital CPR did not improve from 1992 through 2005. The survival rate is lower among patients who were older, had more coexisting illnesses, had a cancer diagnosis, and who presented with a non-shockable rhythm (asystole or pulseless electrical activity).

   References:

   - Ehlenbach WJ, Barnato AE, Curtis JR, et al. Epidemiologic Study of In-Hospital Cardiopulmonary Resuscitation in the Elderly. N Engl J Med 2009; 361:22-31.

- Meaney PA, Nadkarni VM, Kern KB, et al. Rhythms and outcomes of adult in-hospital cardiac arrest. Crit Care Med. 2010 Jan; 38(1):101-8.
- Hwang JP, Patlan J, de Achaval S, Escalante CP. Survival in cancer patients after out-of-hospital cardiac arrest. Support Care Cancer. 2010 Jan; 18(1):51-5.
- Swor RA, Jackson RE, Tintinalli JE, Pirrallo RG. Does advanced age matter in outcomes after out-of-hospital cardiac arrest in community-dwelling adults? Acad Emerg Med. 2000 Jul; 7(7):762-8.

4. The correct answer is (A).

   Three ethical principles have broad-based support within the U.S. legal system and accepted clinical practice and thereby form the basis for decision making in the ICU: 1) Withholding and withdrawing life support are equivalent; 2) There is an important distinction between killing and allowing to die; and 3) The doctrine of "double effect" provides an ethical rationale for providing relief of pain and other symptoms with sedatives even when this may have the foreseen (but not intended) consequence of hastening death.

   Reference:

   - Truog RD, Campbell ML, Curtis JR, et al. Recommendations for end-of-life care in the intensive care unit: A consensus statement by the American Academy of Critical Care Medicine. Crit Care Med 2008; 36:953–963

5. The correct answer is (D).

   This degree of dyspnea and weight loss are two of the criteria indicating a prognosis of less than 6 months listed in the National Hospice and Palliative Care Organization's (NHPCO's) Guidelines for Determining Prognosis in Selected Non-Cancer Diseases. Criteria include FEV1 less than 30% of predicted for age, disabling dyspnea at rest, progressive pulmonary disease, hypoxemia at rest on supplemental oxygen, decreased FEV1 on serial testing of > 40ml per year, unintentional weight loss of > 10% of body weight in 6 months, resting tachycardia > 100/min, and documented cor pulmonale or right heart failure due to advanced pulmonary disease.

   The BODE index, which takes into account BMI, severity of airflow obstruction as measured by FEV1, subjective dyspnea and exercise capacity predicts death from respiratory illness and all-cause mortality better than each individual component. Therefore, BODE is a better predictor than FEV1 alone, but still not predictive of 6-month prognosis. Width of left atrium > 5cm can indicate pulmonary hypertension but is not necessarily indicative of right heart failure.

   References:

   - Celli BR, Cote CG, Marin JM, et al. The body-mass index, airflow obstruction, dyspnea, and exercise capacity index in chronic obstructive pulmonary disease. N Engl J Med. 2004:350:1005-1012
   - Fox E, Landrum-McNiff K, Zhong Zeta/ Evaluation of prognostic criteria for determining hospice eligibility in patients with advanced lung, heart, or liver disease. JAMA 1999; 283:1638-1645.

6. The correct answer is (B).

The patient has symptoms typical of the Restless Leg Syndrome (RLS). The four cardinal diagnostic features of RLS include (1) an urge to move the limbs that is usually associated with paresthesia or dysesthesias, (2) symptoms that start or become worse with rest, (3) at least partial relief of symptoms with physical activity, and (4) worsening of symptoms in the evening or at night.

The dopamine agonists Pramipexole and ropinirole have been shown to be effective in the treatment of moderate-to severe RLS.

Reference:

- Aurora RN; Kristo DA; Bista SR; Rowley JA: Zak RS; Casey KR; Lamm CI; Tracy SL; Rosenberg RS. The treatment of restless legs syndrome and periodic limb movement disorder in adults—an update for 2012: practice parameters with an evidence-based systematic review and meta-analyses. Sleep 2012; 35(8):1039-1062.

7. The correct answer is (C).

   The patient has emerged from his coma and is now in a vegetative state: he has periods of sleep and periods of being awake but has no response to his environment and is not aware or conscious.

   References:

- Booth CM, Boone RH, Tomlinson G, Detsky AS. Is this patient dead, vegetative, or severely neurologically impaired? Assessing outcome for comatose survivors of cardiac arrest. JAMA. 2004 Feb 18; 291(7):870-879.
- Barker RA. The neurological assessment of patients in vegetative and minimally conscious states. NeuropsychRehab. 2005:15; 214–223.
- Wijdicks EF, Varelas PN, Gronseth GS, Greer DM. Evidence-based guideline update: Determining brain death in adults. Report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2010;74:1911–1918

8. The correct answer is (E).

   The absence of pupillary and corneal response in the first 1-3 days after a cardio-pulmonary arrest is a high predictor of mortality in comatose patients.

   References:

- Booth CM, Boone RH, Tomlinson G, et al. Is this patient dead, vegetative, or severely neurologically impaired? Assessing outcome for comatose survivors of cardiac arrest. JAMA. 2004; 291(7):870-879.
- Wijdicks EF, Hijdra A, Young GB, Bassetti CL, Wiebe S. Practice Parameter: Prediction of outcome in comatose survivors after cardiopulmonary resuscitation (an evidence-based review). Neurology 2006; 67:203–210.

9. The correct answer is (C).

   Opioids and benzodiazepines given for symptom management during withdrawal of mechanical ventilation are not associated with a hastened death.

   References:

- Bercovitch M, Adunsky A. High dose controlled-release oxycodone in hospice care. J Pain Palliat Pharmacother. 2006; 20:33-39.

- Chan JD, Treece PD, Engleberg RA, Crowley L, Rubenfeld GD, Steinberg KP, et al. Narcotic and benzodiazepine use after withdrawal of life support: association with time to death? Chest. 2004; 126:286-293.

10. The correct answer is (D).

    No further action is needed to confirm the diagnosis of brain death. This patient has the necessary prerequisites: a proximate cause of coma, normal temperature (>36º C), normal systolic BP (> 100 mm Hg), and the exclusion of potential confounders of drugs or electrolyte abnormalities. This patient meets the clinical exam criteria for brain death based on: the presence of coma; findings absent of brainstem reflexes; and a positive apnea test, meaning that the patient had the appropriate rise in serum PCO2 and lack of initiation of spontaneous respiration for the specified time period of 10 minutes.

    The American Academy of Neurology (AAN) 2010 guidelines state that one neurologic examination is sufficient to pronounce brain death in most states. Because the apnea test was able to be completed without hemodynamic risk to the patient, ancillary testing (EEG, Transcranial Doppler Ultrasonography, or Cerebral Scintigraphy), is not necessary.

    References:

- Wijdicks EF, Varelas PN, Gronseth GS, Greer DM. Evidence-based guideline update: Determining brain death in adults. Report of the Quality Standards Subcommittee of the American Academy of Neurology. Neurology 2010;74:1911–1918

- Lustbader D, O'Hara D, Wijdicks EF, MacLean L, Tajik W, Ying A, E. Berg, Goldstein M. Second brain death examination may negatively affect organ donation. Neurology 2011;76:119–124.

11. Correct answer: A
    Patients will be considered to be in the terminal stage of pulmonary disease (life expectancy of 6 months or less) if they meet the following criteria:
    *disabling dyspnea at rest, poor response or no response to bronchodilators, resulting in decreased functional capacity, eg, bed to chair existence, fatigue
    * [FEV1], <30% predicted value after bronchodilator
    *Hypoxemia at rest on room air, as evidenced by pO2 ≤55 mmHg, or oxygen saturation ≤88%, determined either by arterial blood gases or oxygen saturation monitors (these values may be obtained from recent hospital records),
    *Hypercapnia, as evidenced by pCO2 ≥50 mmHg (this value may be obtained from recent [within 3 months] hospital records).
    *Right heart failure (RHF) secondary to pulmonary disease (Cor pulmonale, e.g., not secondary to left heart disease or valvulopathy).
    *Unintentional progressive weight loss >10% of body weight over the preceding 6 months.
    *Resting tachycardia >100/minute.
    Reference: Medical guidelines for determining appropriateness of hospice referrals. Up to date 2021

12. Correct answer: A

Opioids are an important addition to dyspnea treatment for patient with severe COPD. Oral and parenteral opioids were shown to reduce the sensation of dyspnea in two systematic reviews of randomized clinical trials. Nebulized opioids were not shown to be effective. Simon et al (2010) found no evidence that benzodiazepines provided relief in COPD patients

Reference: An Official American Thoracic Society statement; update on the mechanism assessment and management of Dyspnea; M Parshall et all: American journal of Respiratory and Critical Care Medicine, vol 184/issue 4, 2012.

13. Correct answer A
COPD prevalence is high in low-income population. Recently revised, the GOLD/ABCD assessment tool incorporates the number of exacerbations/ hospitalizations as measured by the Modified Medical Research Council (mMRC) dyspnea scale and the COPD Assessment Test (CTAT) score. Suzuki et al. showed that patients who received acupuncture reported an improvement in dyspnea after a 6 min walk test. There are no randomized controlled trials to assess the efficacy of benzodiazepines in COPD.
Reference:
Suzuki M, Shigeo M et al: a randomized, placebo controlled trial of acupuncture in patients with COPD. The acupuncture trial. Arch Intern Med 2012;172(11):878-886
Simon ST,Higginson IJ, et al: Benzodiazepines for the relief of breathlessness in advanced malignant and no malignant pulmonary diseases. Cochrane database Syst Rev :2010(1): CD 007354

Wound Care/Pressure Ulcers/Pruritus/Xerstomia

1. The correct answer is (D).

Explanation: Based upon the history, physical exam, and imaging this patient most likely has cholestatic pruritus secondary to biliary obstruction. This patient has a good performance status and is a candidate for palliative stenting for the indication of pruritus. Antihistamines such as diphenhydramine may be beneficial in allergic diseases. However, there is little evidence in cholestatic pruritus. Hydrocortisone may be indicated in localized inflammatory skin disease. However, it would not be indicated in this patient. Gabapentin is indicated in uremic pruritus but not for cholestatic pruritus.

References:

- Krajnik M. Zylicz. Understanding pruritus in systemic disease. J Pain Symptom Manage. 2001-:21:151-168
- Kremer AE, Beuers U, Oude-Elferink RP, Pusl T. Pathogenesis and treatment of pruritus in cholestasis. Drugs. 2008:68(15):2163-2182

2. The correct answer is (A).

Explanation: The first line medical treatment for cholestatic pruritus is cholestyramine which is a bile resin binder. Opioid rotation is often effective for opioid-related side effects such as itching. However, the patient was been on a stable dose of opioid which preceded the development of itching and cholestatic signs. Antihistamines such as diphenhydramine may be beneficial in allergic diseases. However, there is little evidence in cholestatic pruritus. Topical emollients may help with xerodermia which may be a contributing to itching and can be used as an adjunct, but the cause of his pruritus is cholestasis.

References:

- Kremer AE, Beuers U, Oude-Elferink RP, Pusl T. Pathogenesis and treatment of pruritus in cholestasis. Drugs. 2008:68(15):2163-2182
- Bergasa NV. Update on the treatment of pruritus of cholestasis.

3. The correct answer is (E).

   Explanation: Topical metronidazole has been proven to treat superficial anaerobic infection and the associated wound odor. Systemic antibiotics is incorrect because the patient has a localized infection not a systemic infection. Alginate dressings absorb exudates but do not address the odor. Topical lidocaine gel treats wound pain but not odor. Wet-to-dry dressing changes may be painful and cause local trauma or bleeding and does not address the odor.

   References:
   - McDonald A, Lesage P. Palliative management of pressure ulcers and malignant wounds in patients with advanced illness. J Palliat Med. 2006 Apr: 9(2):285-295.
   - Seaman S. Management of malignant fungating wounds in advanced cancer. Semin Oncol Nurs 2006 Aug: 22(3):185-193.

4. The correct answer is (A).

   Explanation: The patient most likely has oral candidiasis (thrush), which is likely exacerbated by the chronic COPD regimen, which might include inhaled or oral steroids. Topical hydrocortisone and alcohol which is often in diphenhydramine elixir may worsen thrush. Artificial saliva for xerostomia would not treat the underlying candida infection.

   Reference: https://www.capc.org/fast-facts/182-xerostomia/.

5. The correct answer is (A).

   Explanation: The choice of dressing in malignant wounds is generally the same as with pressure ulcers. Alginate dressings have a role in wounds that have exudates and/or are bleeding. They are absorptive, hemostatic, and help to control infection. They do not have to be pulled off and can be simply washed off in the shower. Any dressing that comes into contact with the bleeding surface may adhere and tear the surface when it is pulled off. Therefore, wet-dry dressings would not be appropriate. Saline wet-to-dry dressings are only useful for mechanical debridement. Cotton gauze can be used to cover the primary dressing; however, it is rarely an appropriate dressing for a significant ulcer. Thin films are for the treatment of Stage I pressure ulcers. It can also hold another type of absorbent dressing in place but does not address this patient's exudate and bleeding.

   References
   - https://www.capc.org/fast-facts/46-malignant-wounds/.
   - https://www.capc.org/fast-facts/41-pressure-ulcers-debridement-and-dressings/.

6. Correct answer A
   Salivary changes, whether resulting in dry mouth or thick, ropey saliva, compromise these protective features and can result in increased incidence of dental caries, sensitivity of nondecayed teeth, attrition and erosion of the dentition, mucosal injury, dysgeusia and hypogeusia, inability to wear dental prostheses, and increased incidence of oral infection. Patients with decreased salivary flow are at risk for rapid development of dental caries, many of which cannot be easily detected upon simple visual inspection of the oral cavity until the condition is advanced.

References:

- Sarika Hanchanale, Lucy Adkinson, Sunitha Daniel, Michelle Fleming & Stephen G Oxberry. Systematic literature review: xerostomia in advanced cancer patients. Supportive Care in Cancer, volume 23, 881–8, 2015.
- Cohen EE, LaMonte SJ, Erb NL, Beckman KL, Sadeghi N, Hutcheson KA, Stubblefield MD, Abbott DM, Fisher PS, Stein KD, Lyman GH, Pratt-Chapman ML. American Cancer Society Head and Neck Cancer Survivorship Care Guideline. CA Cancer J Clin. 2016 May;66(3):203-39.

7. Correct answer: D
   Acupuncture has shown no benefit in the treatment of dysgeusia
   References:
   Hummel T et all: Smell and taste disorders. GMS Curr Top Otorr Head Neck Sur: 2011:10:4

Medicare Hospice Benefit

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1. The correct answer is (A).

   Her hip fracture is unrelated to her terminal illness. The patient may seek curative treatment for illness not related to the terminal diagnosis.

   If the fracture were pathologic, rehabilitation would be related to the condition and thus subject to coverage by the hospice. Even if patient remains in hospice and receives rehab, many physicians are uncertain about payment/billing and misunderstand the Medicare hospice benefit.

   The patient and family always have the option of revocation if desired, but remains eligible for hospice alongside the treatment, particularly to focus on pain management and goals of care. Only the patient/family can "revoke, the hospice cannot.

   References:

   - Javier, N Montagnin, M: Rehabilitation of the Hospice and Palliative Care Patient. J Palliative Medicine 2011: 14(5):638-648
   - Miller, S: A model for Successful Nursing Home-Hospice Partnerships. J Pal Med. 2010:13(5):525-533.

2. The correct answer is (D).

   Under Medicare regulations, a physician – either MD or DO must certify eligibility for hospice, but the nurse practitioner may be attending to patient, if the patient selects the NP. Only NPs with a contractual/employment relationship with the hospice can do face-to-face evaluations for the hospice at 3rd and subsequent benefit periods.

   References:

   - Medicare COP Code of Federal Regulations, Tittle 42 Chapter IV Subchapter B Part 418 Hospice Care

- http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=f719f310f64cec28f62878a8e9e132f4&tpl=/ecfrbrowse/Title42/42cfr418_main_02.tpl

- Home Healthcare Nurse. http://journals.lww.com/homehealthcarenurseonline/Fulltext/2012/01000/Demystifying_the_Role_of_Nurse_Practitioners_in.12.aspx

3. The correct answer is (D).

   Admit patient to inpatient unit for uncontrolled symptoms. Respite is appropriate for 5 days to allow the family a break or to get away, but symptoms should be well controlled in this level of care. The patient's escalating "insomnia" merits further investigation and could well be delirium. During crisis care in the home, family members are expected to remain in the home, as this is not a custodial strategy.

   References:

   - Medicare COP

   - Fast Facts: http://www.eperc.mcw.edu/EPERC/FastFactsIndex/ff_140.htm

4. The correct answer is (A).

   The patient is likely entering the third benefit period if she has been on hospice months last year. Since she is an emergent admission on this holiday weekend, the face-to-face prior to admission can be waived and done later. If she should die within two calendar days of admission (and physicians historically are "optimistic"), the face-to-face is considered "completed." She can go home to crisis care as she has symptoms that require skilled nursing management: dyspnea, anxiety, possibly pain. The inpatient unit is another alternative for her care, and if physician sees patient prior to nursing assessment/admission, the regulations have been met. Due to her significant symptoms, she is an emergent admission.

   References:

   - Medicare FAQ on F2F requirements prior to admission

     http://www.cms.gov/Medicare/Medicare-Fee-for-Service-Payment/Hospice/Downloads//hospice_face2Face_FAQ_032511.pdf

5. The correct answer is (C).

   A consulting physician who has a contract with the hospice for a specific service bills the hospice, which bills Medicare A and reimburses the physician as contractually agreed. In A and B, the physician bills Medicare B with the modifier GV. In situation D, this visit is considered administrative and is covered by the per diem for the patient.

   References:

   - UNIPAC 4th edition

   - Hospice Medical Director Billing Guide 2011 Bruce Chamberlain, assessed through members only

site AAHPM

- Open site for physician billing on AAHPM: http://www.aahpm.org/physresources/default/coding.html#Physician
- Medicare Claims Processing Manual: https://www.cms.gov/manuals/downloads/clm10-1c11.pdf
- http://www.cms.gov/Regulations-and-Guidance/Guidance/Manuals/Downloads/clm104c10.pdf
- http://www.cms.gov/Regulations-and-Guidance/Guidance/Transmittals/Downloads/R1885CP.pdf

6. The correct answer is (C).

   Failure to Thrive/Debility is no longer accepted as the primary hospice diagnosis but can be a secondary diagnosis. This patient may still be eligible for hospice if she has another medical condition such as significant congestive heart failure, moderately severe Alzheimer's dementia, chronic obstructive pulmonary disease, or another illness that impacts her prognosis. For referral to Home Health, the patient should meet criteria for that level of care: home bound status except for visits to physician, church, beauty shop and leaving the home should create a burden. It isn't clear from the information that we have that she is a candidate for Home Health. Communicating with the community attending is one of the roles of a Hospice Medical Director.

7. The correct answer is (D).

   Medicare expects hospice to cover all medications and treatments related to the terminal condition. Paracentesis is a palliative procedure to relieve symptoms of pain and dyspnea related to ascites. However, paracentesis is not without risk or burden to the patient. With more frequent paracentesis, the question of benefit arises. Some patients might merit an indwelling catheter, also responsibility of the hospice unless it has been placed prior to admission to hospice.

   Reference: Fast Fact #177 Palliative Treatment of Malignant Ascites. Accessed at www.capc.org

8. The correct answer is (E).

   Continuous/Crisis care is meant for short term management of pain and other symptoms that are uncontrolled. This patient's symptoms are under good control. A good strategy is to schedule the medications for the patient's comfort, and to increase hospice presence. If the patient's condition deteriorates and her symptoms become difficult to control, then she might merit Continuous Care at that time. It would not build a collaborative relationship to speak of fraud to the DON. She might not be aware of the regulations, so education would be in order. CMS is watching the frequencies of hospice team members, particularly at the end of life.

   Reference: "Managing Continuous Home Care for Symptoms Management"

   http://www.nhpco.org/sites/default/files/public/regulatory/CHC_Tip_sheet.pdf

9. The correct answer is (C).

   This is a challenging situation. Medicare wishes to see that actions have been taken/attempted prior to discharge from hospice, but there is an allowance for discharge of a patient based upon safety to the team and noncompliance. The best course might be to attempt to adjust his medications and create a safe environment if possible. An alternative could be to return to the VA for further evaluation, treatment, but his wife prefers to keep

him at home. If the interventions are unsuccessful and the family refuses return to the VA, then discharge would be an option. A provider is permitted to discharge the patient if the behavior of the patient or others in the home is disruptive to the extent that the hospice is unable to provide care as planned. Discharge for cause is meant to be a last resort.

Reference: http://www.nhpco.org/sites/default/files/public/newsline/2012/NL_September12.pdf

"A Hospice Provider's Guide to Live Discharges"

10. Correct answer: B

    Clinical judgment as the medical director, which is reached consideration of the factors detailed in the local coverage determinations (LCD) as well as the patient decline, comorbidities and other conditions. The LCDs are used as guidelines to help a physician determine hospice eligibility. The LCDs are not regulations and they should be considered with other factors such as prognosis less than 6 months, comorbidities, terminal diagnosis, deconditioning, etc. According to Medicare, the hospice certification of terminal diagnosis should be based on the medical director's clinical judgement.
    Reference: Centers for Medicare and Medicaid Services. US Department of Health and Human Services (November 2002)

11. Correct answer: A

    Levothyroxine is a treatment for a chronic condition (hypothyroidism) unrelated to the terminal condition. It should be covered by Medicare part D. Hospice is responsible to cover treatment of medical conditions related to the patient's terminal condition
    Reference: Health Care Financing administration, US Department of health and Human Services 1983;48(243) 56010-56011

12. Correct answer: B

    The patient needs to be transferred to an inpatient unit General Inpatient Unit (GIP) for symptom management. Transition to GIP is appropriate when symptoms cannot be managed at home. Hospice must provide a short-term GIP for symptoms management that cannot be managed in other setting.
    Reference: Centers of Medicare and Medicaid services. US department of Health and Human Services. Medicare Benefit policy Manual Chapter 9:40

AIDS

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1. The correct answer is (C).

   Explanation: Many patients who appear quite ill can improve dramatically and resume a normal life when treated with anti-retroviral therapy and appropriate opportunistic disease prophylaxis. CD4 count and viral load are much less reliable in late-stage disease, and any of the traditional prognostic markers may be overridden by the potential impact of anti-retroviral therapy. Substance abuse increases the risk of disease progression. Social isolation, lack of social support, and stigma associated with HIV are associated with worsened prognosis.

Reference: Selwyn PA, Rivard M. Palliative care for AIDS: challenges and opportunities in the era of highly active anti-retroviral therapy. Innovations in End-of-Life Care website.ww2.edc.org/lastacts/archives/archivesMay02/ovessay.asp#revtable3.

2. The correct answer is (B).

Explanation: Abacavir is associated with a rare hypersensitivity reaction which has been reported in 3% to 5% of individuals taking the drug. Individuals usually experience three or more of the following symptoms: nausea, abdominal pain, fever, rash, headache, cough, fatigue, and malaise. Symptoms typically increase with each subsequent dose of abacavir. The hypersensitivity reaction most often occurs within the first 6 weeks of therapy. Reinstating abacavir therapy in patients who have experienced a hypersensitivity reaction can be life-threatening.

Reference: Phillips EJ, Mallal SA. Abacavir hypersensitivity reaction. Up to date.

3. The correct answer is (A).

Explanation: A decision to discontinue antiretroviral therapy should be based on the patient's goals of care and the treatment's demonstrated lack of effectiveness and its potential to do harm if continued. Some patients will prefer, or benefit from, continuing medications. There are no comprehensive guidelines that address the appropriate time to withdraw antiretroviral therapy in patients who have no realistic possibility of benefit. In the final weeks of life, prophylaxis provides only theoretical benefit. Ethics can be helpful but are rarely needed to negotiate a shared decision treatment plan.

Reference: Farrar DJ. Megestrol acetate promises and pitfalls. AIDS Patient Care STDS. 1999;13(3):149-152.

4. The correct answer is (A).

Explanation: Given the high probability of Candida in the pre-antiretroviral era, many physicians will empirically treat patients with a course of fluconazole. If symptoms persist, endoscopy and biopsy are necessary. In one study, the presence of esophageal candidiasis without oropharyngeal candidiasis approached 20%.

References:

Monkemuller K, Lazenby A, Lee D, Loudon R, Wilcox C. Occurrence of gastrointestinal opportunistic disorders in AIDS despite the use of highly active antiretroviral therapy. Dig Dis Sci. 2005;50(2):230-234.

Connolly G, Hawkins D, Harcourt-Webster J, Parsons P, Husain O, Gazzard B. Oesophageal symptoms, their causes, treatment, and prognosis in patients with the acquired immunodeficiency syndrome. Gut. 1989;30(8):1033-1039.

Bonacini M, Young T, Laine L. The causes of esophageal symptoms in human immunodeficiency virus infection. A prospective study of 110 patients. Arch Intern Med. 1991;151(8):1567-1572.

Wilcox C. Short report: time course of clinical response with fluconazole for Candida esophagitis in patients with AIDS. Aliment Pharmacol Ther. 1994;8(3):347.

Bhaijee F, Subramony C, Tang SJ, Pepper DJ. Human immunodeficiency virus-associated gastrointestinal disease: common endoscopic biopsy diagnoses. Patholog Res Int. 2011;2011:247923.

Wilcox C, Straub R, Clark W. Prospective evaluation of oropharyngeal findings in human immunodeficiency virus-infected patients with esophageal ulceration. Am J Gastroenterol. 1995;90(11):1938-1941.

Nkuize M, De Wit S, Muls V, Arvanitakis M, Buset M. Upper gastrointestinal endoscopic findings in the era of highly active antiretroviral therapy. HIV Med. 2010;11(6):412-417.

Wilcox C. Evaluation of the HIV-infected patient with odynophagia and dysphagia. www.uptodate.com/contents/evaluation-of-the-hiv-infected-patient-with-odynophagia-and-dysphagia.

5. The correct answer is (C).

Explanation: HAND is the most common manifestation of HIV in the central nervous system. It is a chronic neurodegenerative condition characterized by cognitive, central motor, and behavioral abnormalities. The most commonly reported deficits are in attention and concentration, psychomotor speed, memory and learning, information processing, and executive function. HAND was prevalent before antiretroviral therapy and were viewed as a precursor to death. Individuals successfully treated with antiretroviral therapy can, however, present with milder, more slowly progressing, and less lethal form of HAND.

References

1. Reger M, Welsh R, Razani J, Martin D, Boone K. A meta-analysis of the neuropsychological sequelae of HIV infection. J Int Neuropsychol Soc. 2002;8(3):410-424.

Goulet JL, Molde S, Constantino J, Gaughan D, Selwyn PA. Psychiatric comorbidity and the long-term care of people with AIDS. J Urban Health. 2000;77(2):213-221.

McArthur J. HIV dementia: an evolving disease. J Neuroimmunol. 2004;157(1-2):3-10.

Brew B. Evidence for a change in AIDS dementia complex in the era of highly active antiretroviral therapy and the possibility of new forms of AIDS dementia complex. AIDS. 2004;18(Suppl 1):S75-S75.

Dubler NN. The difficult, demanding, and demented AIDS patients in long-term care. J Urban Health. 2000;77(2):222-231.

1. Correct answer D:

CD4 < 12 cells and viral load> 100,000
Patients will be considered to be in the terminal stage of their illness (life expectancy of 6 months or less) if they meet the following criteria (1 and 2 should be present; factors from 3 will add supporting documentation):
1. CD4 count <25 cells per microliter or persistent (2 or more assays at least 1 month apart) viral load >100,000 copies/mL, plus one of the following:
   - CNS lymphoma, untreated or persistent despite treatment
   - Wasting (loss of at least 10% lean body mass)
   - MAC bacteremia, untreated, unresponsive to treatment, or treatment refused
   - Progressive multifocal leukoencephalopathy
   - Systemic lymphoma, with advanced HIV disease and partial response to chemotherapy
   - Visceral Kaposi sarcoma, unresponsive to therapy
   - Renal failure in the absence of dialysis
   - Cryptosporidium infection
   - Toxoplasmosis, unresponsive to therapy
2. Decreased performance status, as measured by the Karnofsky Performance Status (KPS) scale, ≤50%.

3. Documentation of the following factors will support eligibility for hospice care:
   - Chronic persistent diarrhea for 1 year

- Persistent serum albumin <2.5 g/dL
- Concomitant, active substance abuse
- Age >50 years
- Absence of or resistance to effective antiretroviral, chemotherapeutic, and prophylactic drug therapy related specifically to HIV disease
- Advanced AIDS dementia complex
- Toxoplasmosis
- Congestive heart failure, symptomatic at rest
- Advanced liver disease

Reference:
The NHO medical guidelines for non-cancer disease and local medical review policy: Hospice access for patients with disease other than cancer. Hosp J, 1999.

2. Correct answer E

   The prevalence of distal symmetrical polyneuropathy (DSPN) in different series has varied from 9 to 63 percent.This variability reflects differences in the degree of immunosuppression (higher prevalence with more advanced disease), in the definition of the neuropathy (symptomatic or asymptomatic), and in exposure to neurotoxic antiretrovirals Because of known neurotoxicities, didanosine and stavudine are no longer recommended for the treatment of HIV.
   Reference:
   Relation of peripheral neuropathy to HIV treatment in four randomized clinical trials including didanosine. Thomas Kelleher, Clin Therapeutics, Vol 21, no7, 1999.
3. The correct answer is B.
   See response 6.
   References:
   The NHO medical guidelines for non-cancer disease and local medical review policy: Hospice access for patients with disease other than cancer. Hosp J, 1999.
4. The correct answer is C.
   There is no difference in response rate or disease-free survival among these two populations with Hodgkin's Lymphoma, while people living with HIV and either non-small cell lung cancer or anal cancer have a shorter prognosis than the general population. Among those living with HIV and SCC of head/neck, there is conflicting data on whether they have a shorter prognosis than the general population.

   References:
   - Hysell K, Yusuf R, Barakat L, et al. Decreased Overall Survival in HIV-associated Non-small-cell Lung Cancer. Clinical lung cancer. 2021;22(4):e498-e505.
   - Camandaroba MPG, Iseas S, Oliveira C, et al. Disease-Free Survival and Time to Complete Response After Definitive Chemoradiotherapy for Squamous-Cell Carcinoma of the Anus According to HIV Infection. Clinical colorectal cancer. 2020;19(3):e129-e136.
   - Sorigué M, García O, Tapia G, et al. HIV-infection has no prognostic impact on advanced-stage Hodgkin lymphoma. AIDS (London, England). 2017;31(10):1445-1449.
   - Nayyar SS, Thiagarajan S, Malik A, et al. Head and neck squamous cell carcinoma in HIV, HBV and HCV seropositive patients - Prognosis and its predictors. Journal of cancer research and therapeutics. 2020;16(3):619-623.

3. The correct answer is (A) Cerebral cortex.

   This patient's anticipatory nausea arises from the cerebral cortex, which processes anxiety and learned behavior with sensory input from the gastrointestinal tract and from increased cerebral pressure and meningeal irritation, and then sends an emetic stimulus to the vomiting center. Once a pattern of anticipatory nausea is established, a medication that acts on the cerebral cortex to decrease the learned response would be most appropriate. A benzodiazepine should be administered before the nausea occurs, thereby decreasing the stimuli.

   Reference:
   - Wood GJ, Shega JW, Lynch B, Von Roenn, JH. Management of intractable nausea and vomiting in patients at the end of life. JAMA. 2007; 298 (10):1196-1207.

2. The correct answer is (A) Dopamine receptors in the chemoreceptor trigger zone.

   Olanzapine is an atypical antipsychotic and possesses a unique neurotransmitter binding profile similar to antiemetics used widely in Europe for refractory nausea. It blocks numerous receptors thought to be important in nausea and vomiting, including serotonin (5HT2a, 5HT2c, 5HT3, 5HT6), dopamine (D1, D2, D3, D4), acetycholine (muscarinic receptors), and histamine (H1). Although there is not a large amount of randomized controlled data, there are case series and smaller uncontrolled trials suggesting that it may be an effective treatment for refractory nausea. The other receptors listed are not thought to be important to olanzapine's mechanism of action. GABA receptors (option A) are thought to be important in the activity of benzodiazepines in treating anticipatory nausea.
   References:
   - Navari RM, Einhorn LH, Passik SD, et al. A phase II trial of olanzapine for the prevention of chemotherapy-induced nausea and vomiting: a Hoosier Oncology Group study. Support Care Cancer. 2005; 13(7):529-534.
   - Navari RM, Einhorn LH, Loehrer PJ Sr, et al. A phase II trial of olanzapine, dexamethasone, and palonosetron for the prevention of chemotherapy-induced nausea and vomiting: a Hoosier Oncology Group study. Support Care Cancer. 2007; 15(11):1285-1291.

3. The correct answer is (A) Acupuncture.

   Acupuncture has been shown to be effective in treating acute and chronic pain in randomized placebo-controlled trials, and in cancer-related pain. It has also been shown to be effective for chemotherapy-related nausea and vomiting and post-operative pain. Less robust research has shown mixed results for acupuncture as a treatment for xerostomia, dyspnea, fatigue, vasomotor symptoms, and smoking cessation.
   References:
   - Bardia A, Barton DL, Prokop LJ, et al. Efficacy of complementary and alternative medicine therapies in relieving cancer pain: a systematic review. J Clin Oncol. 2006; 24:5457-5464.
   - Cassileth BR, Deng GE, Gomez JE, et al. Complementary therapies and integrative oncology in lung cancer: ACCP evidence-based clinical practice guidelines (2nd edition). Chest. 2007; 132: 340-354.

4. The correct answer is (B) Chemoreceptor trigger zone (CTZ).

   Nausea triggered by metabolic abnormalities is thought to be mediated through the CTZ. The CTZ is located at the base of the Fourth ventricle, where it is functionally outside the blood-brain-barrier. Bacterial toxins, metabolic derangements, and medications in the blood or cerebrospinal fluid can stimulate the CTZ and lead to nausea and vomiting.
   References:

- Ljutic D, Perkovic D, Rumboldt Z, Bagatin J, Hozo I, Pivac N. Comparison of ondansetron with metoclopramide in the symptomatic relief of uremia-induced nausea and vomiting. Kidney Blood Press Res. 2002; 25:61-64.
- Wood GJ, Shega JQ, Lynch B, Von Roenn JH. Management of intractable nausea and vomiting in patients at the end of life: "I was feeling nauseous all of the time...nothing was working." JAMA. 2007; 298:1196-1207.

5. The correct answer (E) Megestrol acetate.

   Cachexia is a wasting syndrome characterized by loss of muscle mass, anorexia, and early satiety and has been shown to be indicative of a poor prognosis. The weight loss in cachexia is not entirely due to decreased food intake but is driven by cytokines that directly increase resting energy expenditure and selectively cause the loss of muscle rather than adipose tissue. Megestrol acetate is a progestational agent that has been shown in several trials to improve appetite in some patients with cancer cachexia. The exact mechanism of megestrol and other progestational agents' effect in anorexia and cachexia is unknown, although it may be related to glucocorticoid activity. Another hypothesis is that progestational agents down regulate the synthesis and release of proinflammatory cytokines that drive the anorexia/cachexia syndrome. Megestrol acetate is approved in Europe for treatment of cancer and AIDS-related cachexia and is often used for this purpose in the United States. However, clinical trials have shown that it stimulates appetite in only 30% of patients, and although it may result in weight gain, the gain is primarily fat rather than muscle. Megestrol acetate has a prothrombotic effect and should be avoided in patients with a history of deep venous thrombosis or pulmonary embolism or who are at high risk for thrombotic events; it also is noted to worsen lower-extremity edema. Megestrol acetate has not been shown to improve quality of life or increase survival in patients with cancer.

   References:

- Mantovani G, Madeddu C. Cancer cachexia: medical management. Support Care Cancer. 2009; Aug 18.
- Mattox TW. Treatment of unintentional weight loss in patients with cancer. Nutr Clin Pract. 2005; Aug 20(4):400-410

6. The correct answer is (C). Sacral plexopathy.

   Pelvic malignancies can infiltrate the sacral plexus in L5-S2 with the subsequent development of sphincter incontinence and sensory loss. They have a nociceptive quality described as aching and dull in sacral area, and a neuropathic quality described as burning or throbbing in the rectum and perineal pain.

   Reference:

- Chang VT, Janjan N, Jain S, Chau C. Regional cancer pain syndromes. J Palliat Med.2006; 9(6):1435-1453.

7. The correct answer is (A).

   Licorice has been shown to help treat gastric ulcers and alleviate the symptoms of dyspepsia (level of evidence, C). Taken chronically and in excess, however, one of its constituents, glycyrrhizic acid, can lead to pseudoprimary hyperaldosteronism. This can present as severe and symptomatic hypertension (headaches, nausea/vomiting, hypertensive encephalopathy), adrenally induced fluid retention (pulmonary and peripheral edema), and symptomatic hypokalemia (myalgias, cramps, weakness, tetany, and rarely cardiac dysrhythmias). Deglycyrrhized licorice is available if patients want a safer alternative.

   References:

- Isbrucker RA, Burdock GA. Risk and safety assessment on the consumption of Licorice root (Glycyrrhiza sp.), its extract and powder as a food ingredient, with emphasis on the pharmacology and toxicology of glycyrrhizin. Regul Toxicol Pharmacol. 2006; 46(3):167-192.
- Elinav E, Chajek-Shaul T. Licorice consumption causing severe hypokalemic paralysis. Mayo Clin Proc. 2003; 78(6):767-768.

8. The correct answer is D, tobramycin.
   There are many treatment modalities to choose from when working to treat or prevent mucositis, and none of them have robust evidence for use. It's generally accepted that a combination of different modalities works best. Prevention always starts with good oral hygiene and dental care to eliminate sources of infection. Salt and soda rinses can prevent bacterial overgrowth. Prophylactic use of honey has been shown to be beneficial by eliminating pathologic microbial flora. Use of antibacterial or antiviral medications are useful as a treatment for mucositis when indicated; however, they have not been shown to be beneficial in the prevention of infection.

   References:

- Rodríguez-Caballero A, Torres-Lagares D, Robles-García M, et al. Cancer treatment-induced oral mucositis: a critical review. International journal of oral and maxillofacial surgery. 2012;41(2):225-238.

9. The correct answer is B.
   Evidence supports that treating an uncomplicated bone metastasis with a single dose of radiation is just as efficacious for pain as a more prolonged course. It is also less costly and more convenient as it requires only 1 treatment. It should be considered in seriously ill patients, though those with a life expectancy of <1 month may not live long enough to receive as much benefit. However, it does not offer less chance of recurrence of pain. About half of patients, regardless of which modality is used, will have recurrence after a year.

   References:

- Lutz S, Balboni T, Jones J, et al. Palliative radiation therapy for bone metastases: Update of an ASTRO Evidence-Based Guideline. Practical radiation oncology. 2017;7(1):4-12.

Challenging Conversations in Palliative Care

1. The correct answer is (D).

   Percentage of time the family members spoke. The percentage of time family members speak in a family conference has been shown to be significantly associated with improved family satisfaction with the meeting. In addition, the greater percentage of time family members speak significantly decreases the family's perception of conflict between family and physician.

   Reference:

- McDonagh JR, Elliott TB, Engleberg RA, et al. Family satisfaction with family conferences about end-of-life care in the intensive care unit: increased proportion of family speech is associated with increased satisfaction. Crit Care Med. 2004;32:1484-1488

2. The correct answer is (B).

   Clarify the daughter's spiritual beliefs with regard to end-of-life care. When a patient or family member brings up a spiritual or religious issue, the most appropriate first response should be to take a spiritual history. Clarification of the daughter's comment is safe and provides the physician a better understanding of the context of the conversation and background of the daughter. Such an exploration can also be a validation of the daughter and her spiritual beliefs, a validation that may enhance the daughter's trust of the physician. An understanding of the daughter's spiritual position will allow the physician to discuss the situation in terms relevant to the daughter and highlight which interventions and services may be helpful.

   Reference:

   - Okon TR. Spiritual, religious, and existential aspects of palliative care. J Palliat Med. 2005; 8(2):392-414.

3. The correct answer is (A).

   I am not comfortable praying aloud, but I will be happy to stay here while you pray. Many patients take comfort in prayer and may ask physicians or other members of the healthcare team to participate. Spiritual care, although it is primarily the focus of the chaplain, is part of the work of every member of the interdisciplinary team. If a patient asks for the participation of members of the team in religious practices and rituals, the team should respect the patient and his or her beliefs and accept or decline the request in a way that expresses caring and honors the patient.

   References:

   - Lo B, Kates LW, Ruston D, et al. Responding to requests regarding prayer and religious ceremonies by patients near the end of life and their families. J Palliat Med. 2003; 6:409-415.

   - Lo B, Ruston D, Kates LW, et al. Discussing religious and spiritual issues at the end of life: a practical guide for physicians. JAMA. 2002; 287:749-753.

4. The correct answer is (C).

   Ask the patient to speak more about his concerns and to listen supportively. Many patients bring up spiritual or religious concerns at the end of life. Palliative physicians are not experts in spiritual care but should develop the skill of taking a basic spiritual history and be able to provide a listening presence to the patient who wants to discuss spiritual or religious concerns. Some techniques that physicians can use to investigate religious or spiritual concerns with patients include asking open-ended questions, asking the patient to say more, using empathic comments, and asking about emotional concerns. In the above scenario, the physician might have responded to the patient by saying, "It must be really hard to feel that way," and then asked an open-ended question such as "Tell me more about the role of God and the church in your life." Some pitfalls for the physician to avoid include offering answers or solutions to the patient's spiritual dilemma, imposing the physician's own beliefs on the patient, or providing premature reassurance.

   Reference:

   - Sulmasy DP. Spirituality, religion, and clinical care. Chest. 2009 Jun; 135(6):1634-1642.

   - Lo B, Ruston D, Kates LW, et al. Discussing religious and spiritual issues at the end of life: a practical guide for physicians. JAMA. 2002 Feb 13; 287(6):749-754.

5. The correct answer is (D).

   Refer the child to a child play therapy expert. Child-play therapy can be used for children as young as 2 or 3 years and involves activities such as drawing pictures or molding clay, playing with puppets or sand, and therapeutic story telling. Sessions typically last 30 to 45 minutes and provide a venue in which children can be coached with strategies to cope with difficulties they may be encountering in their lives. Child-play therapy has been shown through research to be an effective intervention in improving outcomes for children who are bereaved or traumatized by the illness or death of a beloved adult or sibling.

   Reference:

   - Dowdney L. Childhood bereavement following parental death. J Child Psychol Psychiatry. 2000 Oct; 41(7):819-830.
   - Kaduson HG, Schaefer CE. Contemporary play therapy: theory, research and practice. New York: The Guilford Press; 2007

6. The correct answer is (B).

   Disclose the bad news about her realistic prognosis. Although hope is clearly an important construct for many patients, including this one, she was clear about wanting explicit information about her prognosis, and data suggest that withholding prognosis is not seen as an acceptable way of maintaining hope for most patients. Patients and families say prognostic information helps them make emotional and logistic preparations for death. There is also the suggestion in the literature that patients and surrogates turn to other sources of hope besides their physician. Hope-giving characteristics in a physician include offering the most up-to-date treatment, appearing knowledgeable, telling patients that pain will be controlled, telling all of the treatment options, and appropriately using humor.

   Reference:

   - Apatira L, Boyd EA, Malvar G, et al. Hope, truth, and preparing for death: perspectives of surrogate decision makers. Ann Intern Med. 2008; 149(12):861-868.
   - Robinson TM, Alexander SC, Hays M, et al. Patient-oncologist communication in advanced cancer: predictors of patient perception of prognosis. Support Care Cancer. 2008; 16(9):1049-1057.

7. The correct answer is (A).

   Encourage his exploration of self-awareness regarding empathic connection with his patients. Recent literature suggests that caring, connected relationships with patients enhance patient outcomes and physician well-being, preventing compassion fatigue, burnout, and vicarious trauma. Exquisite empathy, defined as “highly present, sensitively attuned, well-boundaried, heartfelt empathic engagement” with patients, has actually been shown to invigorate clinicians tending to patients who have experienced significant trauma. In addition, caring, connected relationships that engage in the human relationship between clinician and patient have been shown to alleviate suffering of patients in hospice and palliative care.

   Reference**:**

   - Kearney MK, Weininger RB, Vachon MLS, Harrison RL, Mount BM. Self-care of physicians caring for patients at the end of life: “Being connected . . . a key to my survival.” JAMA. 2009; 301(11):1155-1164.

8. The correct answer is (D).

   Discuss the process of decision making with the patient and family using an interpreter. Cross-cultural issues are particularly challenging at the end of life. These challenges have to do with both language issues and decision-making issues. In most cultures, decisions are not made solely by the individual but rather by family consensus or even by a community. Even in Anglo-Saxon cultures, where individual autonomy is treasured, patients rarely make decisions in a vacuum without consideration of their family. Involvement of the family in the decision-making process is consistent with the palliative care approach of treating the patient and family as the unit of care. Discussions on how decisions should be made and who should participate do not require disclosure of medical information. If the patient cannot or does not want to participate in the decision, then medical information does not need to be provided to her.

   Reference:

   - Ngo-Metzger Q, Phillips RS, McCarthy EP. Ethnic disparities in hospice use among Asian-American and Pacific Islander patients dying with cancer. J Am Geriatr Soc. 2008 Jan; 56(1):139-144.

9. The correct answer is (C).

   Encourage the sister to attend the funeral. Children as young as 2 years old are beginning to develop a concept of death, and participation in death rituals can assist in helping young children grieve in a healthy manner. Strong emotions should be allowed but not necessarily expected as many young children express their feelings of sorrow and fear through play rather than more “adult” expressions of grief. Children will often “self-titrate” their expressions of emotions based on what they feel ready to experience. Expecting tears or discouraging laughter can interrupt this important self-regulation of grief. Providing the foundation and support regarding the loss and grief is most helpful.

   Reference:

   - Himelstein BP. Palliative care for infants, children, adolescents, and their families. J Palliat Med. 2006 Feb; 9(1):163-181.
   - Knapp CA, Contro N. Family support services in pediatric palliative care. Am J Hosp Palliat Care. 2009 Dec-2010 Jan; 26(6): 476-82. PubMed PMID: 19837971.

10. The correct answer is (C).

    James Collins spent 5 years trying to understand the difference between good and great companies, and after looking at a wide range of both qualitative and quantitative data, he identified the leadership skills that helped companies go from good to great. In Collins’s view the difference between good and great companies were leaders who were modest about their own contributions but had a steely determination to help their company achieve greatness. By steely determination, he means that when confronting adversity, the leader retained his/her focus on the predetermined criteria for the company’s success.

11. The correct answer is (B).

    Discuss with the family their concerns about disclosing the diagnosis to the patient. Discussing the family’s concerns will help the hospice team understand the family’s viewpoint and will lay the foundation for further discussions with the patient and family. By starting with a shared understanding of the issues, the family’s concerns can be addressed, and a more therapeutic relationship can be developed. Culturally, it may be normal for the family to control medical information and make decisions for a patient; however, individuals often wish to do this for themselves. Studies have shown that most Chinese patients would want to know their cancer

diagnosis. Consequently, understanding the family's concerns is a necessary step before negotiating a plan for finding out what the patient prefers with regard to information sharing and decision making.

Supporting the family's secrecy efforts (option A) or helping the family or interdisciplinary team prepare responses that avoid giving a direct answer (option C) are not honest, and therefore are not ethical ways to deal with this situation. However, telling the family that the hospice team must tell the patient (option D) may set up an adversarial relationship with the family, as this language does not allow for negotiation or exploration of the family's concerns.

References:

- Hallenbeck J, Arnold R. A request for nondisclosure: don't tell mother. J Clin Oncol. 2007; 25:5030-5034.
- Jiang Y, Liu C, Li JY, et al. Different attitudes of Chinese patients and their families toward truth telling of different stages of cancer. Psycho-oncology. 2007; 16:928-936.

12. The correct answer is (A).

    Bereavement counselor. The Medicare hospice benefit conditions of participation state that core services must routinely be provided by hospice employees, one of which is bereavement counseling. The other core service providers are nurses, medical social workers, physicians, dietary counselors, and spiritual counselors. Other services as part of the Medicare conditions of participation may routinely be provided by hospice employees or by contracted staff.

    These service providers include physical therapists, occupational therapists (option C), speech-language pathologists, home health aides (option E), and homemakers. Other service providers may be covered under the Medicare hospice benefit as part of a patient's plan of care if they are "reasonable and necessary for the palliation and management of the patient's terminal illness and related conditions" (i.e., respiratory therapy and music therapy [options B and D], in this patient's case).

13. The correct answer is (D).

    Inform the interdisciplinary team that the patient is aware of his situation. In order to0 take the best care of the boy, his psychosocial and existential concerns need to be addressed. He is clearly providing evidence of his concerns, and the expertise of the interdisciplinary team should be brought to bear to assist him. The route of caring for these needs may be funneled through parents, the child-life therapist, or someone else close to him, but the training of the interdisciplinary team is needed to ensure the highest quality of care.

    Option A, keep it to themselves, is incorrect. A 4-year-old does not have the independent legal or moral right to confidential conversation. Option B, immediately find the parents and tell them to speak to the boy more openly, is not correct because the parents need to know he is aware of his illness and impending death, but they cannot be expected to completely change their behavior. The team's expertise should be tapped to maximize the adaptation of the parents as well as the child, thereby enhancing quality of care for the family. Option C, tell the social worker to make him her next priority visit, is incorrect because, although the social worker's expertise is helpful and should be solicited as soon as possible, his or her personal visit is not urgent.

References**:**

- National Hospice and Palliative Care Organization. Standards of Practice for Pediatric Palliative Care and Hospice. Alexandria, VA: NHPCO; 2009.
- Patel DR, Pratt HD, Patel ND. Team Processes and Team Care for Children with Developmental Disabilities. Pediatr Clin N Am. 2008; 55:1375-1390.

14. The correct answer is option B, clarify the daughter's spiritual beliefs with regard to end-of-life care. When a patient or family member brings up a spiritual or religious issue, the most appropriate first response should be to take a spiritual history. Clarification of the daughter's comment is safe and provides the physician a better understanding of the context of the conversation and background of the daughter. Such an exploration can also be a validation of the daughter and her spiritual beliefs, a validation that may enhance the daughter's trust of the physician. An understanding of the daughter's spiritual position will allow the physician to discuss the situation in terms relevant to the daughter and highlight which interventions and services may be helpful.

    Although a referral to pastoral services may be helpful (option A), it is too premature. More information is needed to determine if the daughter is receptive to pastoral care and what her needs and concerns may be. Similarly, arranging a meeting with the family's priest (option C) may not be appropriate. Most community clergy have little understanding or training in end-of-life care. Without planning and preparation, a meeting with the priest may be counterproductive. Having the chaplain coordinate with the priest would be more effective and efficient. Option D, reassuring the daughter that everything will be done for her mother, may lead to unwanted or inappropriate care and may miss the daughter's true concern.

    Take Home Point

    Taking a more in-depth spiritual history is the most appropriate first step when patients and families bring up a spiritual or religious topic.

15. The correct answer is option B; disclose the bad news about her realistic prognosis. Although hope is clearly an important construct for many patients, including this one, she was clear about wanting explicit information about her prognosis, and data suggest that withholding prognosis is not seen as an acceptable way of maintaining hope for most patients. Patients and families say prognostic information helps them make emotional and logistic preparations for death. There is also the suggestion in the literature that patients and surrogates turn to other sources of hope besides their physician. Hope-giving characteristics in a physician include offering the most up-to-date treatment, appearing knowledgeable, telling patients that pain will be controlled, telling all of the treatment options, and appropriately using humor.

    Option A, telling the patient that you do not know what lies ahead but you will support them no matter what happens, may be a very effective strategy as it acknowledges the true uncertainty of the situation and demonstrates your support. In this patient, however, withholding the prognosis despite her request is unlikely to be seen as an acceptable way of supporting her hope. Talking to the family first (option D) has actually been described by patients as a behavior that would not support hope.

    Option C, disclosing only the most optimistic estimates of prognosis, is also unlikely to be an effective strategy as it will not give her the accurate picture she is requesting. Recent data also suggest that pessimistic statements are necessary to achieve concordance between patient and provider estimates of prognosis.

Take Home Point

Hope is important to many patients and families as they face bad news, but withholding prognosis is generally not seen as an acceptable way of maintaining hope.

16. The correct answer is option D; discuss the process of decision making with the patient and family using an interpreter. Cross-cultural issues are particularly challenging at the end of life. These challenges have to do with both language issues and decision-making issues. In most cultures, decisions are not made solely by the individual but rather by family consensus or even by a community. Even in Anglo-Saxon cultures, where individual autonomy is treasured, patients rarely make decisions in a vacuum without consideration of their family. Involvement of the family in the decision-making process is consistent with the palliative care approach of treating the patient and family as the unit of care. Discussions on how decisions should be made and who should participate do not require disclosure of medical information. If the patient cannot or does not want to participate in the decision, then medical information does not need to be provided to her.

    Option A is not correct. Although engaging the assistance of an interpreter is the correct action to take, speaking to the patient alone could be culturally inappropriate and may anger and alienate the family. Option B is not correct. Although evaluating the patient's capacity to make decisions is important, such an evaluation may not be necessary. Regardless of her capacity to make decisions, the patient will likely ask the family to assist her in decision making, and the family will likely still want the patient involved. Option C is not correct as gaining more knowledge about the Chinese culture, admirable as it may be, likely will not help facilitate a solution. Applying cultural generalization to individual cases is dangerous. Patients and families may have different levels of acculturation. Significant variability exists even within a culture.

    Take Home Point

    Patients and families from most cultures make decisions based upon family consensus. Discussing the process of decision making is more important than the outcomes of the decision.

17. The correct answer is option C, encourage the sister to attend the funeral. Children as young as 2 years old are beginning to develop a concept of death, and participation in death rituals can assist in helping young children grieve in a healthy manner. Strong emotions should be allowed but not necessarily expected as many young children express their feelings of sorrow and fear through play rather than more "adult" expressions of grief. Children will often "self-titrate" their expressions of emotions based on what they feel ready to experience. Expecting tears or discouraging laughter can interrupt this important self-regulation of grief. Providing the foundation and support regarding the loss and grief is most helpful.

    Option A, discourage the sister from seeing her brother in his last days, is not correct. Spending time with a dying sibling can help children make sense of what is going on around them and is thought to be a valuable experience. Option B, use euphemisms to describe death, is incorrect. Direct language should be used to describe what has happened to prevent misunderstandings. Questions about death should be encouraged. Option D make sure that she is present when her brother dies are not correct. A child's grief should not be judged as appropriate or inappropriate, but simply supported.

    Allowing a child to be present at the time of death can help to relieve misconceptions about the dying process. Encouraging children to engage in the lives, deaths, and death rituals of their siblings and parents is important. Most children are able to sense what they can and cannot handle in regard to these events. Forcing a child to participate in an event, however, is not recommended.

Take Home Point

Bereaved children should be allowed to participate in the death rituals of their deceased siblings and parents.

18. The correct answer is option A, ask the patient for his understanding of the current situation. This is a "breaking bad news" conversation, and although there is no single evidence-based stepwise method for holding these conversations, there are some principles that run through the majority of the teaching points and guidelines from experts in the field. The key principle here is to ask the patient what his understanding of the situation is before breaking the news, because it lets the clinician know where to begin and allows the opportunity to correct any baseline misunderstandings.

    Giving a "warning shot" (option E) and then telling the patient simply and kindly that curative therapy is no longer an option (option D) are both steps recommended by experts, but it is generally suggested that the clinician determine the patient's understanding first to properly frame this disclosure. Option B, explaining the difference between palliative care and hospice, may become important when discussing the plan; however, the "bad news" will need to be shared first. Because the patient has already said he is comfortable and requested a discussion of next steps, option C, dwelling even further on the pain history, may only serve to raise his anxiety.

    Take Home Point

    Asking about a patient's or family's understanding of the current situation is a key early step in breaking bad news because it gives the clinician an appreciation of what is understood (or misunderstood), and thereby gives a starting point for the discussion of the bad news.

19. The correct answer is A.
    Emotions such as hope, fear and guilt often are the driving factor that make family members resistant to allow a loved one's code status to be changed to DNR. Exploring these can often help us discover underlying factors that are contributing. In this case, we have evidence that there could be a component of unresolved conflict or guilt that have contributed to the son's decision. Though misinformation and misunderstandings about CPR are a top reason that many lay people decline to choose DNR for their loved one, in this situation, C is unlikely to yield any useful information as the son is a medical professional and has seen CPR. B is incorrect as it lacks empathy and not likely to help you make any progress. D, though empathic, does not address anything that specifically could be contributing the specific situation.

20. The correct answer is B.
    It provides an empathic but realistic response while also including the word "die", which can be very valuable for the family to hear. Answer A tends to avoid the question. Answer C provides only an empathic response without addressing the family's concerns. Answer D assumes the goals of care for the family is to prolong life while we have no evidence to support this is their goal.

Common Pharmacological Interactions in Palliative Care

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1. The correct answer is (C).

References:

- www.medicine.iupui.edu/flockhart/drug_interactions/

2. The correct answer is(C).

   References:

   - Weschules DJ, Bain KT, Richeimer S. Actual and potential drug interactions associated with methadone.

3. The correct answer is (A).

   Reference:

   - Weschules DJ, Bain KT, Richeimer S. Actual and potential drug interactions associated with methadone.

4. The correct answer is (A).

   Reference:

   - Fishbain DA, et al. Genetic testing for enzymes of drug metabolism: does it have clinical utility for pain medicine at the present time? Pain Med 2004; 5:81-93.

5. The correct answer is (D).

   Reference:

   - Riechelmann RP, et al. Potential drug interactions in cancer patients receiving supportive care exclusively. J Pain Symptom Manage. 2008; 35:535-43.

6. The correct answer is D, mirtazapine.

   Tamoxifen depends on the CYP2D6 enzyme for conversion into its active form and many antidepressants inhibit this enzyme resulting in decreased amount of available tamoxifen. Fluoxetine, paroxetine and sertraline are stronger 2D6 inhibitors and should be avoided with tamoxifen. Mirtazapine exhibits much less 2D6 inhibition and is generally believed to be safe with tamoxifen.

7. The correct answer is D – alprazolam.
   Alprazolam is metabolized by CYP3A4. Diltiazem is a CYP3A4 inhibitor and can therefore prolong the effects of alprazolam. None of the other choices would be significantly affected by diltiazem.

Ethical and Legal Decision Making

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1. The correct answer is (D).

   If her husband cannot be located after diligent efforts, the correct answer is (A), the majority of her adult children. (B) and (C) are not correct because they are not consistent with the state's legal hierarchy for surrogate decision-

making. (E) is incorrect because the law does make provisions for surrogate decision making in the absence of a medical power of attorney.

References:

- Volandes AE, Solomon M. Advanced Directives. In: Caraceni AT, Fainsinger R, Foley K, Glare P, Gogh C, Lloyd-Williams M, Nunez Olarte J and Radruch L (eds). Palliative Medicine Philadelphia: Saunders Elsevier, 2009; 98-104,
- Texas Health & Safety Code section 166.039.

2. The correct answer is (C).

   As you want to find out more regarding what the family understands about the patient's medical condition and then from there, hopefully go on to identify mutually agreed upon goals of care for the patient. (A) is not correct because the agitation may be multi-factorial, especially as the patient was admitted with pain. Denying that the patient has pain is unlikely to facilitate the development of a therapeutic relationship with the family and may serve to increase the family's frustration with the patient's situation. (B) is not correct because physicians are required to provide comfort to all patients. Like (A), (D) is incorrect as it is argumentative and not conducive to the development of a working relationship with the family. (E) is incorrect because medical treatments are not determined by democracy.

   References:

- Tulsky JA. Ethics in the practice of palliative care. In: Bruera E, Higginson IJ, Ripamonti C and von Gunten CF (eds). Textbook of Palliative Medicine Great Britain: Edward Arnold Publishers, Ltd, 2006:92-99
- Tulsky JA. Beyond Advance Directives JAMA 2005; 294:359-365.

3. The correct answer is (C).

   The principle of double effect. During the family meeting, it was acknowledged that morphine can cause respiratory depression in some situations, but that the dose of morphine administered would be selected on the basis of providing comfort without putting the patient at great risk for respiratory depression. Put another way, the intent was not to induce respiratory depression as the means of providing comfort. (A) is not correct because the patient was not provided with a drug intended to cause her death. (B) is incorrect because of the lack of intent to take the patient's life by the administration of morphine. The intent was to judiciously administer morphine for the purpose of pain relief (comfort). (D) is not correct because the patient was not receiving morphine with the intent of depressing consciousness as the means to symptom amelioration.

   References:

- Cherny NI. Palliative sedation. In: Bruera E, Higginson IJ, Ripamonti C and von Gunten CF (eds). Textbook of Palliative Medicine Great Britain: Edward Arnold Publishers, Ltd, 2006:976-987
- Taboada P. Principles of bioethics in palliative care. In: Bruera E, Higginson IJ, Ripamonti C and von Gunten CF (eds). Textbook of Palliative Medicine Great Britain: Edward Arnold Publishers, Ltd, 2006:85-91
- Tulsky JA. Ethics in the practice of palliative care. In: Bruera E, Higginson IJ, Ripamonti C and von Gunten CF (eds). Textbook of Palliative Medicine Great Britain: Edward Arnold Publishers, Ltd, 2006:92-99
- Tulsky JA. Beyond Advance Directives JAMA 2005; 294:359-365.

4. The correct answer is (D).

   TPN has been life saving for this patient over the last several years, but is not any longer, given the change in her medical circumstances. The advanced nature of the cancer and her poor nutritional status, as demonstrated by her low albumin level, are indications of change in efficacy of the TPN and the frequent hospitalizations related to potentially life-threatening sepsis, are indications of increased burden. (a) is not correct because TPN is no longer providing adequate nutritional support and is putting her at increased of death from infection.

   Reference:

   - Tulsky JA. Beyond Advance Directives JAMA 2005; 294:359-365.

5. The correct answer is (E).

   This situation represents shared decision-making between the patient and her physician and constitutes advance care planning, as the patient is basing her preferences for medical care on her knowledge of the medical situation in the context of her personal values and goals. (A) is incorrect because discontinuation of TPN in this setting constitutes removing treatment that is no longer of benefit to the patient. In contrast, 'withdrawing or withholding life sustaining treatment' may take place when the burdens of treatment outweigh the benefits for the individual in question. The disease is then allowed to run its natural course, with death occurring as a consequence of the underlying disease process. (D) is incorrect because TPN is being withdrawn due to lack of efficacy, not in order to induce death.

   Reference:

   - Ackermann RJ. Withholding and withdrawing potentially life-sustaining treatment. In: Berger AM, Shuster JL and von Roenn JH (eds). Principles and Practice of Palliative Care and supportive Oncology Philadelphia: Lippincott Williams and Wilkins, 2007:697-705

   - Tulsky JA. Beyond Advance Directives JAMA 2005; 294:359-365.

6. The correct answer is (D).

   Assuming the patient does not have capacity for medical decision making,

   The patient's wife, as they are still legally married. The legal hierarchy in many states is spouse, followed by the majority of available adult children, then parents or siblings. Differences between states speak to the need for knowing the legal hierarchy for the state in which you practice. It is also important that family members and surrogates recognize that the role of the surrogate decision maker is to communicate, to the extent possible, the preferences of the patient and not those of the surrogate. If patient preferences are known, expressed wishes are incorporated into the decision-making process, and if not, decisions are made utilizing substituted judgment based on the surrogate's knowledge of the patient's values and life experiences. It is important that health care professionals encourage patients to appoint a medical power of attorney (MPOA) and to discuss their goals and values, as impact medical decision making, with their MPOA and surrogates, so that if surrogate decision making becomes necessary, the surrogate has knowledge of patient wishes regarding health care decisions.

   References:

- Fins JJ, Nilson EG. Withholding and withdrawing life-sustaining care. In: Hanks G, Cherny NI, Christakis NA, Fallon M, Kaasa S and Portenoy RK (eds). Oxford Textbook of Palliative Medicine Oxford: Oxford University Press, 2010; 320-329.

- Volandes AE, Solomon M. Advanced Directives. In: Caraceni AT, Fainsinger R, Foley K, Glare P, Gogh C, Lloyd-Williams M, Nunez Olarte J and Radruch L (eds). Palliative Medicine Philadelphia: Saunders Elsevier, 2009; 98-104.

7. The correct answer is (E).

   An improved understanding of the reasons behind patient, family member and/or loved ones choices provides the health care team with an opportunity to validate their feelings and often allows for correction of misperceptions, leading to resolution of conflictual situations. It is also important to inform those involved that health care providers always have the obligation to provide comfort-oriented care.

   References:

- Tulsky JA. Beyond Advance Directives JAMA 2005;294:359-365,

- Stagno S, Zhukovsky DS, Walsh D. Bioethics: communication and decision-making in advanced disease. Semin Oncol 2000; 94-100, (3)

- Goold SD, Williams B, Arnold RM. Conflicts regarding decisions to limit treatment JAMA 2000; 238:909-914.

8. The correct answer is (C).

   Persistent vegetative state (PVS), otherwise termed unresponsive wakefulness syndrome by the European Task Force on Disorders of Consciousness. PVS is defined by persistent unconsciousness with intermittent periods of wakefulness, but without observable signs of cognitively mediated behavior. Mr. PT does not have locked in syndrome because his cognition is not intact. Individuals with locked-in syndrome have intact cognition but are quadriplegic and unable to speak due to lack of motor function required for speech. They are able to communicate with eye blinks. He is not brain dead because he has periods of wakefulness. A diagnosis of brain death requires absence of arousal (periods of wakefulness or vigilance) and of awareness (cognition). Individuals with a diagnosis of minimally conscious state may appear similar to those with PVS, but have definite, albeit minimal, evidence of awareness. Awareness may be of self or of the environment. Demonstration of awareness requires clear and reproducible evidence of >1 of the following:1) simple command following, 2) gestural or verbal yes/no responses and/or 3) intelligible verbalization. To be diagnosed with coma, also known as unarousable unresponsiveness, the individual shows no evidence of self or environmental awareness and manifests the absence of eye opening or sleep-wakefulness cycles. There is failure of the reticular activating system and no evidence of integrated activity. Behavior is limited to reflexive behavior only. Some states have legal statutes defining clinical states such as death or brain death, of which the practioner should be aware if involved in such determinations.

   References:

- Wijdics EFM, Varelas PN, Gronseth GS, et al. Evidence-based guideline update: Determining brain death in adults: Report of the Quality Standards Subcommittee of the American Academy of Neurology, Neurology 2010; 74: 1911-1918.

- Bruno MA, Vanhaudenhuyse A, Thibaut A, et al. From unresponsive wakefulness to minimally conscious PLUIS and functional locked-in syndromes: recent advances in our understanding of disorders of consciousness. J Neurol 2011; 258:1373-1384.

- Young GB. Neurologic prognosis after cardiac arrest. N Engl J Med 209; 361:605-61.

9. The correct answer is (E).

   Interventions are not medically futile on their own and must be considered within the context of the individual's values and goals, as well as the benefits and burdens of the intervention in their condition at the time. Not enough is known about Ms. TP to come to a decision about any of these choices.

   References:

- Stagno S, Zhukovsky DS, Walsh D. Bioethics: communication and decision-making in advanced disease. Semin Oncol 2000; 94-100,

- Fins JJ, Nilson EG. Withholding and withdrawing life-sustaining care. In: Hanks G, Cherny NI, Christakis NA, Fallon M, Kaasa S and Portenoy RK (eds). Oxford Textbook of Palliative Medicine Oxford: Oxford University Press, 2010; 320-329.

10. The correct answer is (E).

    Medical decision-making should be based on known wishes of the patient; should utilize principled, well-informed substituted judgment when the patient's interests are not known; and should reflect the values and best interests of the patient. In the clinical context, it is always important to understand what is behind requests to initiate, continue, discontinue and/or withhold interventions, as often misperceptions are present that can be rectified with the provision of information within a caring and respectful relationship. It is also important to note that while patients have autonomy to decline any form of medical therapy, including life-prolonging or life-sustaining therapy, they do not have autonomy to demand any or all treatments, if judged to be harmful or futile.

    References:

- Stagno S, Zhukovsky DS, Walsh D. Bioethics: communication and decision-making in advanced disease. Semin Oncol 2000; 94-100,

- Fins JJ, Nilson EG. Withholding and withdrawing life-sustaining care. In: Hanks G, Cherny NI, Christakis NA, Fallon M, Kaasa S and Portenoy RK (eds). Oxford Textbook of Palliative Medicine Oxford: Oxford University Press, 2010; 320-329.

- Goold SD, Williams B, Arnold RM. Conflicts regarding decisions to limit treatment JAMA 2000; 238:909-914.

11. The correct answer is E.
12. The answer is E.

Geriatric Palliative Care, Dementia, Delirium, Palliative Sedation and End-stage Neurological Diseases

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Dementia

1. The correct answer is (B).

   In this case, admission to the inpatient hospice facility is to give the family or other persons caring for the patient some rest in their caregiving duties. Respite care is defined as a short-term inpatient care provided by hospice for this purpose. Other reasons for admission to a hospice inpatient facility may include adjustments of medication for the purpose of improving symptoms and when patients may be near death and families and/or patient prefers to die in the facility, especially in patients with significant symptom burden. Admissions to provide rest to hospice home team or for revision of plan of care are both inappropriate.

   In general hospice provides several levels of care depending on the need of the patient and families.

   Routine home care: The patient is at home and is not receiving continuous care. The patient may reside in a private residence, assisted living, residential care facility or skilled nursing facility.

   Continuous home care: The patient is receiving continuous nursing care at home for brief periods of crisis in order to maintain the patient at home. The patient may reside in a private residence, assisted living, residential care facility or skilled nursing facility.

   Inpatient respite care: The patient is in a facility on a short-term basis to provide relief to family members.

   General inpatient care: The patient is in an inpatient facility for pain control or acute or chronic symptom management which cannot be managed in other settings.

2. The correct answer is (D).

   It is known that weight loss and progressive dysphagia are prognostic indicators of end stage dementia. However, simple changes in the texture and consistency of food and the manner of feeding may improve the patient's oral intake and is a reasonable option even in patients with advanced dementia. A swallowing evaluation would have both prognostic and diagnostic value in this case. Placing a feeding tube is not a sound option, but these kinds of conversations are emotionally laden and should be undertaken with care after all other non-invasive options have been tried. And although decrease in food does occur near the end of life, diet modification should be tried before such a conclusion is discussed. Computation of the caloric intake has little value at this time besides confirming the information already known and will not change the management.

3. The correct answer (B).

   Hospice eligibility criteria for patients with dementia states that the patient should have stage 7C or beyond in the FAST Scale along with evidence of one or more of the following conditions in the last 12 months: aspiration pneumonia, pyelonephritis, recurrent fever, multiple pressure ulcers, presence of other condition that suggests limited prognosis and 10% weight loss in the last 6 months. The FAST Scale is shown below:

   - 1. No difficulties
   - 2. Subjective forgetfulness
   - 3. Decreased job functioning and organizational capacity
   - 4. Difficulty with complex tasks, instrumental ADLs

- 5. Requires supervision with ADLs
- 6. Impaired ADLs, with incontinence

A. Ability to speak limited to six words

B. Ability to speak limited to single word

C. Loss of ambulation

D. Inability to sit

E. Inability to smile

F. Inability to hold head up

4. The correct answer is (B).

For patients with dementia, treatment includes drugs that have been shown to slow the decline in cognition and includes acetylcholinesterase inhibitors (Donepezil, rivastigmine and galantamine) and NMDA antagonists (memantine). Other pharmacologic interventions under investigation include gingko biloba, caffeine, NSAIDS and methylphenidate. For patients with behavioral issues, the use of antipsychotics, like Seroquel have been recommended. The FDA has issued a black-box warning after studies have shown increased risk of death in patients with dementia-related psychosis. Valproic acid is a mood stabilizer and is used as a second line treatment in patients with dementia related psychosis. Benzodiazepines are not used to treat psychosis in patients with dementia and should not be used as it may cause delirium in these patients. Selective serotonin reuptake inhibitors as generally used for patients with depression and not those with psychosis.

5. The correct answer is (B).

Patients with dementia are often trying to pull out their feeding tubes, and often is the cause of increase restraint use in nursing homes. In prospective and retrospective studies, placement of feeding tubes has not been shown to improve the quality of life in patients with terminal illness or improve their functional status, including those with advanced dementia. There is no reduction in aspiration pneumonia or improvement in the healing of decubitus ulcers. The use of feeding tubes has been recommended in select patient population, where it may be life-prolonging such as in:

Patient's proximal GI obstruction secondary to malignancy but with good functional

Status

Patients with head and neck cancers receiving active chemotherapy

Selected patients with HIV

Patients with amyotrophic lateral sclerosis

6. The correct answer is (D).

This case illustrates one of the difficulties that clinicians encounter when seeing a patient with dementia. Evaluation for presence and severity of symptoms is often difficult in patients who are not able to express and quantify them. Often, we have to rely on a good history as well as careful observation of the patient to make the most appropriate diagnosis and treatment plan. Giving a pain medication, though may be part of the treatment

plan, is not the best next step. With single joint involvement, you may want to rule out other conditions such as trauma, septic joint with a good history and physical exam. Referral to a rheumatologist may not be the best option unless the diagnosis is clear. Bed rest will cause deconditioning in a frail elderly patient and is not a good choice

Delirium

7. The correct answer is (B).

   Delirium is an acute change in cognition that is characterized by inattention and reduced ability to focus. Patients at increased risk of developing delirium include those with underlying cognitive impairment, have severe underlying medical illness, and advance age. It is general regarded that patients with increased vulnerability can develop delirium with stressors such as infection, metabolic abnormalities, dehydration, pain, and medication side effects.

8. The correct answer is (C).

   This patient has delirium. Delirium is characterized by an acute disturbance in consciousness that results from an underlying medical condition. In this patient's age and advanced disease were predisposing factors for delirium. And her acute kidney injury and dehydration most likely precipitated delirium. The addition of morphine may have caused worsening of the delirium as a result of the accumulation of toxic morphine 6-glucoronide metabolite. To diagnose delirium, several bedside evaluation tools can be used including the Memorial Delirium Assessment Scale, the Confusion Assessment Method and the Delirium Rating Scale. Prescribing an anti-depressant is incorrect in this case as the underlying neuropsychiatric disorder is delirium and not depression. Initiating palliative sedation in this case is very premature, without first trying to control her symptoms that are attributable to her delirium. The use of restraints has also been shown to worsen agitation and actually cause more injury in delirious patients.

9. The correct answer is (C). This patient may have terminal delirium.

   Palliative Sedation

10. The correct answer is (A).

    Palliative sedation is defined as a therapeutic procedure aimed at relieving refractory symptoms in patients such as agitated delirium, dyspnea, massive bleeding and pain. It is often initiated after multiple treatments aimed at controlling symptoms have failed and it is deemed as the only reasonable option left to control such symptoms.

11. The correct answer is (B).

    Ethicists argue that a physician's response to terminal suffering is justified even if it imposes a high risk of hastening death (as in palliative sedation) only if the measures implemented is proportionate to the intensity of the patient's suffering, the measures implemented are appropriate for the type of suffering the patient is experiencing, and the patient and/or legal surrogate understands and accepts the risks associated with the measures. It is the intent to relieve the suffering that largely differentiates palliative sedation with euthanasia.

12. The correct answer is (A).

    Guidelines for palliative sedation include several elements, all of which must be carefully considered when determining appropriateness for initiation of palliative sedation, also known as "continuous deep sedation". These four elements include the following: 1) the patient must be at the end of his or her life from a terminal condition, with death expected within hours to days; 2) symptoms must be refractory to maximal attempts at symptom

management using standard approaches to treatment; 3) the patient and surrogates must be included in the decision making process and be informed of the plan, risks, and benefits; and 4) the aim of the treatment must be relief of symptoms and not the shortening of life. Palliative sedation in the setting of existential/emotional suffering as opposed to refractory physical symptoms (option B) necessitates stringent review through psychiatric evaluation, ethics evaluation, and is considered to be a less acceptable approach than optimal psychiatric management by specialized professionals. Option C is incorrect because, while this person has complicated pain which is difficult to control, she is not in the terminal phase of illness and does not have a prognosis appropriate for consideration of palliative sedation. Option D is incorrect because this person has not yet been maximally treated based on the standard of care for his pain. It would be premature to initiate palliative sedation at this point.

Palliative Care in End Stage Neurological Disease

13. The correct answer is (B).

    The patient's concerns about the future and its impact on his family are very legitimate. These concerns are a golden opportunity to discuss his goals of care and to make plans for the future. Advance care planning is important for ALS patients. Issues include tube feeding, ventilatory support, proxy decision making, and financial planning. Discussion about the needs of the family can lead to dialogue about appropriate home care such as hospice. A hospice referral at this time is premature and may be inappropriate. It may unnecessarily frighten the patient and decrease his acceptance of, or openness to, hospice when the time comes. In addition, there is no evidence that the patient is depressed. An antidepressant, therefore, will not be helpful and may give the patient a sense that he is being labeled. Similarly, a prescription for a benzodiazepine is not appropriate nor helpful since it does not address the underlying issue. While an ALS support group may help, it also may not address the patient's true concerns.

Psychosocial and Spiritual Issues

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1. The correct answer is (A).

   The words patients use to communicate the perceptions of their end-of-life needs reveal how important it is to assess the dynamics of patient–clinician communication. Suffering is a biopsychosocial, multidimensional construct that includes physical, emotional, as well as spiritual pain. Many questions can arise from the spiritual suffering since there can be a loss of relationship between themselves, with the others and with the divine.

   Reference:

   - Pargament KI, Koenig HG, Tarakeshwar N, Hahn J. Religious coping methods as predictors of psychological, physical and spiritual outcomes among medically ill elderly patients: A two-year longitudinal study. J Health Psychol 2004; 9:713-730.

2. The correct answer is (B).

   Because the social context of illness may be involved in requests for “everything,” exploring family dynamics is sometimes key to unlocking the underlying meaning and importance of these requests.

References:

- King DA, Quill T. Working with families in palliative care: one size does not fit all. J Palliat Med. 2006; 9:704-15.
- Quill TE, Arnorl R, Back AL. Discussing treatment preferences with patients who want “everything”. Ann Intern Med. 2009; 151:345-349.

3. The correct answer is (D).

   Adjustment disorder with mixed mood seems to be assimilable to the disorder with depressed mood. A comparison between subjects with adjustment disorder, subjects with specific disorder, and subjects who are not ill results in the conclusion that subjects with adjustment disorder differ from the other two groups in the gravity of symptoms, psychosocial adaptation, and number and intensity of stressors. A comparison between adjustment disorder with depressed mood and other mood disorders shows adjustment disorder with depressed mood to be a moderate form of depression in terms of both gravity of symptoms and degree of social repercussions of the illness. This moderate form of depression is associated with the presence of stressors judged to be severe in younger and better-adapted patients likely to display emotional instability in the form of violent behavior, impulsivity, abuse of toxic substances, and even personality disorders with, at the very least, interpersonal problems. The identification and diagnosis of adjustment disorder is not straightforward but is important since many of these patients will benefit from counseling. Physicians attempting to identify individuals who could benefit from counseling should focus upon a lack of patient flexibility.

   References:

- Mitchell AJ, Chan M, Bhatti H, et al. Prevalence of depression, anxiety, and adjustment disorder in oncological, hematological, and palliative-care settings: a metaanalysis of 94 interview-based studies. Lancet Oncol 2011; 12: 160–74
- Rayner L, Price A, Hotopf M, Higginson IJ. The development of evidence-based European guidelines on the management of depression in palliative cancer care. Eur J Cancer 2011; 47:702-712.

4. The correct answer is (B).

   Persistent low mood, loss of interest in everyday activities, feelings of hopelessness, worthlessness or guilt and suicidal ideation are key symptoms of depression in palliative care. It is also important to be aware of non-verbal cues indicative of depression, such as slumped posture, lack of movement, flat affect and reduced emotional reactivity. Somatic symptoms commonly associated with depression (e.g. appetite change, fatigue, sleep disturbance, psychomotor slowing and loss of libido) may be due to physical disease or treatment and are, therefore, less useful in making a diagnosis of depression in palliative care.

   References:

- Rayner L, Lee W, Price A, et al. The clinical epidemiology of depression in palliative care and the predictive vale of somatic symptoms: cross-sectional survey with 4-week follow-up. Palliat Med, 2011 Apr;25(3):229-41
- Rayner L, Loge JH, Wasteson E, Higginson IJ. The detection of depression in palliative care. Curr Opin Support Palliat Care 2009; 3:55–60.
- Noorani NH, Montagnini M. Recognizing depression in palliative care patients. J Palliat Med 2007; 10:458–64.

5. The correct answer is (D).

Suffering is a biopsychosocial, multidimensional construct that includes physical, emotional, as well as spiritual pain. The spirituality and religiosity field is important to consider when we evaluate patients with advanced and terminal illness, because it can influence coping strategies and quality of life.

References:

- Pargament KI, Koenig HG, Tarakeshwar N, Hahn J. Religious coping methods as predictors of psychological, physical and spiritual outcomes among medically ill elderly patients: A two-year longitudinal study. J Health Psychol 2004; 9:713-730.
- Delgado-Guay MO, Hui D, Parsons HA, Govan K, De la Cruz M, Thorney S, Bruera E. Spirituality, Religiosity, and Spiritual Pain in Advanced Cancer Patients. J Pain Symptom Manage. 2011 Jun; 41(6):986-94.

6. The correct answer is (C).

   There is evidence that open, effective communication promotes coping and psychological adjustment to advanced disease.

   Skills such as active listening, patient-centered consulting, open-ended questioning and appropriate response to cues have been found to increase the ability of palliative care professionals to elicit emotional concerns and detect distress before depression develops.

   References:

- Lewin SA, Skea ZC, Entwistle V, Zwarenstein M, Dick J. Interventions for providers to promote a patient-centered approach in clinical consultations. Cochrane Database Syst Rev 2001:CD003267.
- Ryan H, Schofield P, Cockburn J, et al. How to recognize and manage psychological distress in cancer patients. Eur J Cancer Care (Engl) 2005; 14:7–15.
- Rayner L, Price A, Hotopf M, Higginson IJ. The development of evidence-based European guidelines on the management of depression in palliative cancer care. Eur J Cancer 2011; 47:702-712

7. The correct answer is (A).

   It has been observed that physicians respond to requests to die by focusing predominantly on determinations of the patient's decision-making capacity. It is important to recognize that there is inadequate attention to the underlying meaning and importance of these requests. Exploring what is behind that request is the most appropriate statement to follow. Whereas competent subjects have the right to refuse life-sustaining treatment (and in Oregon and Washington; as well as, in Belgium, Luxembourg, and Switzerland, request physician assisted suicide), A compassionate and comprehensive psychiatric evaluation can help clarify both the patient's concerns and the ethically permissible medical options.

   References:

- Muskin PR. The request to die. JAMA 1998; 279:323-328.
- Walker J, Waters RA, Murray G, et al. Better off dead: suicidal thoughts in cancer patients. J Clin Oncol 2008; 26:4725-4730.
- Rodin G, Zimmermann C, Rydall A, Jones J, et al. The desire for Hastened death in patients with metastatic cancer. J Pain Symptom Manage 2007; 33:661-675.

8. The correct answer is (A).

    - Evaluation and treatment of a suicidal patient are challenging tasks for the physician. Because no validated predictive tools exist, clinical judgment guides the decision-making process. Although there is insufficient evidence to support routine screening, evidence shows that asking high-risk patients about suicidal intent leads to better outcomes and does not increase the risk of suicide. Important elements of the history that permit evaluation of the seriousness of suicidal ideation include the intent, plan, and means; the availability of social support; previous suicide attempts; and the presence of comorbid psychiatric illness or substance abuse. After intent has been established, inpatient and outpatient management should include ensuring patient safety and medical stabilization; activating support networks; and initiating therapy for psychiatric diseases. Care plans for patients with chronic suicidal ideation include these same steps, as well as referral for specialty care.

      Reference:

    - Norris D, Clark MS. Evaluation and treatment of the suicidal patient. Am Fam Physician. 2012 Mar 15;85(6):602-5

9. The correct answer is (E).

    Buspirone is non-addictive and non-sedating. It is Useful in generalized anxiety disorder.

    Reference:

    - Rayner L, Price A, Hotopf M, Higginson IJ. The development of evidence-based European guidelines on the management of depression in palliative cancer care. Eur J Cancer 2011; 47:702-712.

10. The correct answer is (E).

    The SSRIs are the best initial medical therapy for panic attacks/disorders.

    Reference:

    - Rayner L, Price A, Hotopf M, Higginson IJ. The development of evidence-based European guidelines on the management of depression in palliative cancer care. Eur J Cancer 2011; 47:702-712.