MEDICAL COUNCIL OF CANADA | LE CONSEIL MÉDICAL DU CANADA

# MCCQE PART I PRACTICE QUESTIONS

## **Section 1**: A free resource of 55 MCC-style questions

Answers, rationales and references in Section 2 (p.17)

**1.** In a well-designed randomized controlled trial of a drug to treat chronic hepatitis, the case fatality rate was lower for patients who were given the drug. This result was followed by the notation "(*P* = .05)." Which one of the following statements best applies?

A. Treated patients were 20 times less likely to die than untreated patients.
B. The probability is 1 in 20 that the observed differences could have happened by chance alone.
C. The chance is 1 in 20 that a difference would be found again if the trial were repeated.
D. An improved chance of survival was noted for 19 of 20 patients treated.
E. The mortality rate for patients was less than 1 in 20.

---

**2.** A 25-year-old man presents to your clinic with a 2-month history of swelling, pain, and inflammation in his knee. He has been experiencing low back pain and morning stiffness for 2 years. Which one of the following is most likely to confirm the diagnosis?

A. Uric acid level
B. Antinuclear antibodies test
C. Radiography of the sacroiliac joints
D. Rheumatoid factor level
E. Synovial fluid analysis

---

**3.** A 78-year-old woman presents to your clinic after she is found to have a 2-cm hypoechoic thyroid nodule on ultrasonogram. She feels well and does not report hoarseness, dysphagia, or hyperthyroid symptoms. Her medical history includes type 2 diabetes and hypertension. She has never had head or neck radiation, and there is no family history of thyroid cancer. Her thyrotropin (thyroid-stimulating hormone) level is 0.10 mIU/L (0.34–5.60). Which one of the following is the best next step?

**A.** Computed tomography of the neck.
**B.** Thyroid antibody levels.
**C.** Fine-needle aspiration of the thyroid.
**D.** Repeat thyroid ultrasonography in 6 months.
**E. Thyroid uptake and scan.**

4. A 77-year-old man presents to your clinic because of urinary incontinence for the past 2 months. He says that his bladder always feels full, and he frequently loses bladder control during the day and night. For the past year, he has had to urinate every 2 to 3 hours and has had nocturia. Which one of the following is the most likely diagnosis?

    A. Interstitial cystitis
    B. Prostate cancer
    C. Neurogenic bladder
    D. Chronic cystitis
    E. Overflow incontinence

5. An 8-year-old boy is brought by his mother to your clinic because of a 6-month history of a persistent cough. He has single bark-like coughs about 20 times daily. He does not cough through the night. His mother mentions that he has been shaking his head and blinking more frequently throughout the day. Which one of the following in the patient's history would be most important to consider?

    A. Frequent vomiting
    B. Family history of epilepsy
    C. Academic performance
    D. Exposure to allergens

6. A 42-year-old woman presents to your clinic and shares that her husband is physically abusing her. A few days later, you receive a call from a police officer who says she is investigating a complaint made by your patient against her husband. The police officer explains that she needs medical information from you for the investigation. Which one of the following is the best next step?

    A. Call the police officer after you review the patient's file.
    B. Contact the patient to discuss the request.
    C. Send the police officer a medicolegal report.
    D. Refuse to speak with the police officer.

7. A 36-year-old woman, gravida 2, para 1, aborta 0, presents to your clinic for her first prenatal visit. Her pregnancy is at 14 weeks' gestation. She is 155 cm tall and weighs 140 kg (BMI 58). Her prepregnancy weight was 138 kg (BMI 57). Which one of the following is the best advice to give the patient about weight gain during pregnancy?

    A. She should gain 12 kg to 18 kg.
    B. Her weight gain should be based on her prepregnancy BMI.
    C. Her risk of having a macrosomic neonate is lower if she gains 11 kg to 16 kg.
    D. She should gain 400 g each week during the second trimester.
    E. She should begin a calorie-restricted diet.

**8.** A 26-year-old man presents to your clinic with anejaculation, which he has had since he started taking paroxetine. He has major depressive disorder. He would like to switch to a different antidepressant. Which one of the following medications is the most indicated?

A. Fluoxetine
B. Venlafaxine
C. Bupropion
D. Clomipramine
E. Phenelzine

---

**9.** A 24-year-old man presents to your clinic for the first time and reports having had suicidal thoughts for most of his life. He says that he and his girlfriend recently broke up, and he is feeling alone and abandoned. He also notes that he often feels empty and his mood is very unstable. He says "People think I'm a little bit crazy. They never know what I'm going to do." These symptoms are indicative of which one of the following personality disorders?

A. Antisocial
B. Narcissistic
C. Schizotypal
D. Borderline
E. Histrionic

---

**10.** A 42-year-old man presents to your clinic for follow-up. He has been experiencing paranoid ideation that began 8 months ago. After a few weeks of treatment, he was able to return to work as a teacher. His delusions were limited to the belief that coworkers were sending messages about him to each other through various hand signals. He has had no auditory hallucinations and has retained a good range of affect. Which one of the following is the most likely diagnosis?

A. Schizophrenia
B. Schizoaffective disorder
C. Body dysmorphic disorder
D. Delusional disorder
E. Major depressive disorder with psychotic features

---

**11.** A 28-year-old man presents to your clinic for follow-up. He had a humerus fracture and experienced profound radial neurapraxia after surgical intervention. You have been monitoring his recovery for 3 months. Today, due to ongoing symptoms, the patient expresses dissatisfaction with your care and threatens to take legal action against you. Which one of the following is the best next step?

A. Tell the patient to direct his concerns to the local medical regulatory authority.
B. Express your regret and explore the patient's concerns.
C. Reassure the patient that his symptoms will eventually resolve.
D. Offer to immediately transfer the patient's care to a colleague.

**12.** An 18-year-old woman is in hospital and has delivered her first child weighing 2500 g following a short second-stage delivery. The patient has a history of heavy menstrual bleeding. Two hours after delivery, she has profuse vaginal bleeding and hypotension. Her fundus is firm and 6 cm below the umbilicus. Which one of the following is the most likely cause of the increased bleeding in this patient?

A. Uterine atony
B. Coagulopathy
C. Cervical laceration
D. Uterine rupture
E. Endometritis

---

**13.** A 9-month-old boy is brought by his mother to your clinic because she is concerned about his development. The patient smiled at 8 weeks and followed objects in his visual field at 4 months. He has just started to reach for objects and hold them in the midline with some attempt to put them in his mouth. He is not crawling yet. On examination, he has a slight head lag when pulled to a sitting position and sits only with support. Which one of the following is the best management at this time?

A. Reassure the mother that there are no concerns.
B. Refer the patient to a pediatrician for further assessment.
C. Ensure a hearing screening is done and passed.
D. Refer the patient for genetic counselling.

---

**14.** A 5-year-old boy is brought by his mother to your clinic because for the last few months he has been passing stools in his clothes several times a week. He says that he is unaware of it happening. The mother says that the stools he passes are not particularly hard. There are no other symptoms. Abdominal examination reveals a firm nontender mass in the left lower quadrant. Which one of the following is the most appropriate recommendation?

A. The condition requires treatment with laxatives.
B. Surgical intervention will most likely be needed.
C. Magnetic resonance imaging of the spine should be performed.
D. A barium enema would confirm the diagnosis.
E. Referral to a psychiatrist is necessary.

---

**15.** You are a family physician in an industrial city with many different types of manufacturing and processing facilities. You notice that many of your patients who work in these facilities have dermatitis. You collect data from the regional workplace safety and insurance board on cases of dermatitis and the type of industry associated with each case. Which one of the following types of study is being performed by collecting this data?

A. Case-controlled observational
B. Cohort observational

C. Descriptive observational
D. Randomized controlled
E. Analytical observational

---

**16.** A 32-year-old man is admitted to hospital with severe pancreatitis due to long-term alcohol use disorder. He is treated with rehydration, an analgesic, and nasogastric decompression. After 5 days of treatment, he starts to experience dyspnea. On auscultation, he has normal air entry of the right chest, but he has markedly diminished air entry of the left chest. His left chest is dull to percussion. Which one of the following is the most likely diagnosis?

A. Pulmonary embolism
B. Pleural effusion
C. Heart failure
D. Pneumothorax
E. Pneumonia

---

**17.** A 24-year-old man is brought to the emergency department after being in a motor vehicle collision. He sustained multiple injuries, including a concussion, flail chest, and crush injury to his right leg. He is transferred to the intensive care unit (ICU). He requires fasciotomies of his lower leg. While in the ICU, his creatinine level rises to 350 µmol/L (49–93). Which one of the following is the most likely etiology of this laboratory abnormality?

A. Rhabdomyolysis
B. Nephrotoxic agent
C. Sepsis

---

**18.** A 9-year-old boy is brought by his mother to your clinic because of concern that he is extremely aggressive with his peers and with animals. The patient has a diagnosed mild intellectual disability. He steals money, lies, and runs away from home. Testing has eliminated the diagnosis of attention-deficit/hyperactivity disorder. The mother has been involved in parenting courses for several years and is now hoping that her son will be treated with medication. Which one of the following medications is most appropriate to recommend?

A. Lithium
B. Lorazepam
C. Methylphenidate
D. Mirtazapine
E. Risperidone

---

**19.** A 32-year-old woman is brought to labour and delivery when her pregnancy is at 30 weeks' gestation. For the past hour, she has had moderate vaginal bleeding and severe low back pain. Her skin is cool to the touch, and she appears pale. Which one of the following is the best next step?

A. Assess the fetal heart rate and perform an ultrasonography.
B. Obtain obstetric history and perform a detailed systems review.
C. Consult anesthesiology and perform an immediate cesarean delivery.
D. Provide analgesia for the back pain.
E. Place 2 large-bore intravenous lines and start a fluid bolus.

---

**20.** A 42-year-old man is hospitalized for a symptomatic pituitary adenoma. He also has major depressive disorder and takes citalopram. The following day, the pituitary adenoma is resected, his blood sodium level is 155 mmol/L (136–146), and his 24-hour urine output is 5.5 L. He feels thirsty but has not been able to get out of bed due to his urinary catheter. His blood pressure is 122/81 mm Hg, his heart rate is 79/min, and his weight is 76 kg. His blood creatinine level is 92 µmol/L (49–93), and his random blood glucose level is 5.3 mmol/L (4.0–11.0). Which one of the following is the best next step?

A. Start desmopressin
B. Order a water restriction test
C. Administer 5% dextrose in water intravenously at 75 mL/h
D. Stop citalopram
E. Measure serum osmolality

---

**21.** A 19-year-old man presents to your clinic with a 4-hour history of acute scrotal pain. On examination, there is a mass in his right groin extending to the right hemiscrotum. Both testes are nontender and in a normal position. The skin overlying the mass shows no signs of infection, and there is mild tenderness on palpation. Which one of the following is the best next step?

A. Sedation and reduction
B. Emergent surgical repair
C. Abdominal radiography
D. Emergent scrotal ultrasonography
E. Anti-inflammatories and reassurance

---

**22.** A 72-year-old man presents to your clinic with a 3-week history of progressive bilateral lower extremity edema. He has long-term chronic obstructive pulmonary disease. On examination, his vital signs are as follows:

| | |
|---|---|
| Blood pressure | 120/60 mm Hg |
| Heart rate | 80/min |
| Oxygen saturation | 94%, room air |

His chest is clear, and his jugular venous pressure is 6 cm above the sternal angle with obvious c-v waves. He has 2+ pitting edema to the thighs. Which one of the following murmurs would be expected on auscultation of the patient's heart?

A. Systolic ejection murmur at the right upper sternal border.
B. Diastolic murmur in the pulmonic area.
C. Holosystolic murmur at the lower left sternal border.
D. Diastolic murmur in the apical region.
E. Mid-diastolic rumble over the apical area.

---

**23.** A 36-year-old man presents to your clinic after receiving a diagnosis of schizoaffective disorder about 6 months ago. At that time, he started taking an atypical antipsychotic medication and has gained 15 kg. Which one of the following is the best next step?

A. Prescribe a high-protein, low-carbohydrate diet.
B. Change to a different atypical antipsychotic medication.
C. Counsel the patient to live with this adverse effect.
D. Refer the patient for bariatric surgery.

---

**24.** A 37-year-old woman presents to your walk-in clinic with a long history of what she describes as nervousness, headaches, and fearfulness. She has been taking alprazolam 0.5 mg 4 times daily with partial relief. Her regular physician is out of town until next week, and her prescription has run out. She says she has cut her dosage in half for the last 5 days while awaiting her physician's return and that she is feeling increasingly restless and fearful. On examination, the patient shows signs of tremor, sweating, muscle twitching, and difficulty concentrating. Which one of the following is the best pharmacologic management?

A. Discontinue alprazolam and begin buspirone 10 mg twice daily.
B. Discontinue alprazolam and begin citalopram 20 mg daily.
C. Prescribe alprazolam 0.5 mg 4 times daily until the patient's physician returns.
D. Begin clonidine 0.1 mg twice daily until symptoms abate.
E. Add quetiapine 25 mg twice daily until the patient's physician returns.

---

**25.** A 21-year-old man presents to the emergency department and is given a penicillin injection. He returns 30 minutes later feeling faint. His vital signs are as follows:

| | |
|---|---|
| Blood pressure | 70/30 mm Hg |
| Heart rate | 130/min |
| Respiratory rate | 25/min |
| Oxygen saturation | 92%, room air |

His skin is warm and flushed, and he has occasional wheezes. Which one of the following is the most appropriate therapy?

A. Methylprednisolone
B. Salbutamol
C. Epinephrine
D. Vasopressin
E. Diphenhydramine

**26.** A 77-year-old man presents to your clinic with amyotrophic lateral sclerosis that was diagnosed 3 years ago. He now has extensive muscular problems, difficulty speaking, and chronic pain. His pain has not responded to all other pharmacologic and nonpharmacologic therapeutic modalities, so he requests a prescription for morphine, which you provide. Several days later, he is found dead, apparently from a morphine overdose. Prescribing morphine for this patient is best described as which one of the following?

A. Medical negligence
B. Medical assistance in dying (MAID)
C. Patient-centred care
D. End-of-life care

---

**27.** A 21-year-old woman presents to your clinic wanting to get immunized, as she was never immunized as a child due to parental objection. She is pregnant. Which one of the following vaccines should be delayed until after the patient's pregnancy?

A. Inactivated influenza
B. Hepatitis A
C. Measles, mumps, and rubella
D. Acellular pertussis
E. Meningococcal

---

**28.** While on the newborn care unit, you examine a 1-day-old newborn who presents with a limp right hand and wrist. The right grasp reflex is absent; there is some flexion at the right elbow and some voluntary movement at the right shoulder. The newborn is uncomfortable when there is manipulation of the right arm. Which one of the following is the best next step?

A. Observation
B. Immobilization of the right arm
C. Referral to neurology
D. Clavicular radiography

---

**29.** A 6-year-old girl is brought to your clinic to be examined a few days before a myringotomy tube surgical procedure. She has chronic otitis media. On examination, her blood pressure is 112/76 mm Hg (90–110/55–75), and she is above the 90th percentile for her height and weight. All other examination findings are normal. Which one of the following is the best next step?

A. Reassess blood pressure in 1 to 3 months.
B. Contact the surgeon regarding her surgical procedure.
C. Recommend lifestyle modifications.
D. Initiate pharmacotherapy at this visit.

**30.** A 5-year-old boy is brought by his parents to your clinic because he snores and makes choking sounds when he sleeps. He also seems less active in the daytime. Which one of the following investigations should be ordered to confirm the diagnosis?

A. Upper gastrointestinal series
B. Overnight polysomnography
C. Lateral radiography of the neck
D. Nasopharyngeal endoscopy

---

**31.** A 5-year-old boy is brought to your clinic with an oral temperature of 39.0 °C (35.5–37.5) and localized tenderness just above the right knee. He was previously well with no recent illnesses. He is unwilling to bear weight on that leg. Which one of the following is the most likely diagnosis?

A. Osteomyelitis
B. Osteosarcoma
C. Juvenile idiopathic arthritis
D. Transient synovitis

---

**32.** A 66-year-old man is admitted to acute care with a hip fracture secondary to a fall in his long-term care facility. He has schizoaffective disorder, hypertension, type 2 diabetes, and cognitive impairment. His medications are as follows:

| | |
|---|---|
| Lithium | 300 mg orally daily at bedtime |
| Quetiapine | 300 mg orally daily at bedtime |
| Insulin glargine (Lantus) | 20 units subcutaneously daily before lunch |
| Hydrochlorothiazide | 12.5 mg orally daily |
| Ramipril | 5 mg orally daily |
| Enteric-coated acetylsalicylic acid | 81 mg orally daily |

The patient's blood pressure is 138/82 mm Hg supine and 125/80 mm Hg standing. Laboratory results are as follows:

| | |
|---|---|
| Hemoglobin (Hgb), blood | 123 g/L (125–170) |
| Hemoglobin $A_{1c}$ ($HbA_{1c}$), blood | 8.0% (4.8–6.0) |
| Mean corpuscular volume (MCV), blood | 80 fL (80-100) |
| Lithium (Li), blood | 0.3 mmol/L (0.4–0.8) |

Which one of the following is the most significant factor contributing to his fall?

A. Postural hypotension
B. Poorly controlled diabetes
C. Iron deficiency anemia
D. Quetiapine
E. Lithium

**33.** A 37-year-old woman presents to your clinic with a 2-year history of episodic moderate to severe pain in the right upper quadrant of her abdomen. The pain radiates to her back. The episodes are triggered by fatty meals and typically last 30 to 60 minutes. There has been no jaundice or pancreatitis. Results of 2 ultrasonography studies and an upper gastrointestinal endoscopy have been normal. A recent hepatobiliary iminodiacetic acid (HIDA) scan shows a decreased ejection fraction of 6%. Which one of the following is the best recommendation?

A. Pantoprazole for 6 weeks.
B. Endoscopic retrograde cholangiopancreatography and sphincterotomy.
C. Four-month course of ursodeoxycholic acid.
D. Laparoscopic cholecystectomy.
E. Hyoscine butylbromide as needed.

---

**34.** A 74-year-old man presents to the emergency department after a single episode of hematemesis. He had an open abdominal aneurysm repair 3 years ago. He has no known history of gastrointestinal bleeding. Recently, he has been taking indomethacin for joint pain. On examination, he looks well and is hemodynamically stable. An upper gastrointestinal endoscopy shows old blood in the distal duodenum. Which one of the following is the best next step?

A. Computed tomography angiography of the abdomen.
B. Capsule endoscopy.
C. Barium small-bowel follow-through.
D. Technetium-labelled red blood cell scan.

---

**35.** A 35-year-old woman, gravida 1, para 0, aborta 0, presents to the hospital with a headache, nausea, vomiting, epigastric pain, and bilateral leg swelling. Her pregnancy is at 38 weeks' gestation. Her blood pressure is 165/100 mm Hg, and urine dipstick results show 2+ proteinuria. In addition to a complete blood count, which one of the following should be included in the initial investigation?

A. Lactate dehydrogenase
B. Alkaline phosphatase
C. Bile acids
D. Total bilirubin
E. Troponins

---

**36.** A 22-year-old man presents to your clinic because he has recently had a lot of work-related stress. He has bipolar I disorder that has been stable with lithium for more than 3 years; however, he is concerned about a relapse. On examination, there are no signs or symptoms of a manic or depressive episode. Which one of the following is the best way to decrease the patient's risk of relapse?

A. Suggest that he take time off of work

B. Advise him to maintain regular sleep-wake cycles
C. Increase his lithium dosage
D. Organize a family meeting
E. Add a low-dose atypical antipsychotic

---

**37.** An 83-year-old woman is brought to the emergency department after being physically assaulted. She is alert and oriented, and her vital signs are within normal limits, except for pulse oximetry at 81%. Besides minor contusions, examination reveals paradoxical movement of the left chest wall. A chest radiograph reveals multiple rib fractures and pulmonary contusion. The patient has significant pain in this area, causing her to take shallow breaths. After administering oxygen, which one of the following is the best next step?

A. Immediate intubation.
B. Urgent surgical stabilization with wires or plates.
C. Optimization of pain control with an epidural analgesic.
D. Emergency chest tube placement.

---

**38.** A 26-year-old woman is brought by her partner to the hospital because she has epilepsy and her seizures have recently become more frequent. She is admitted to the seizure telemetry unit. On history, her valproic acid dosage has been stable for 5 years. She had a pregnancy termination just before her seizures increased but denies any emotional symptoms. During monitoring, she is noted to have seizures, but the electroencephalogram does not show seizure activity. Which one of the following interventions is the most appropriate?

A. Increase the patient's dosage of valproic acid by 250 mg twice daily.
B. Prescribe an antidepressant and ask the patient to return in 2 weeks.
C. Refer the patient and her partner for counselling.
D. Discharge the patient immediately to reduce further secondary gain.
E. Discuss the stress of pregnancy termination.

---

**39.** A 32-year-old woman, gravida 1, para 0, aborta 0, presents to the hospital with cramping every 3 to 5 minutes over the past 2 hours. Her pregnancy is at 33 weeks' gestation. Her membranes are intact, and she has no vaginal bleeding. A fetal fibronectin test result is negative, and cervical dilation is 1 cm. Which one of the following is the best next step?

A. Discharge the patient if there is no further dilation in 4 hours.
B. Administer indomethacin orally.
C. Begin an infusion of magnesium sulfate.
D. Administer intramuscular corticosteroids.
E. Begin transferring the patient to a higher-level care facility.

**40.** A 55-year-old woman presents to your clinic to discuss her atorvastatin treatment for dyslipidemia. She recently recovered well from an ischemic stroke. Before starting statin therapy, her low-density lipoprotein (LDL) level was 2.8 mmol/L (see table below). Her most recent LDL level was 1.8 mmol/L. Low-Density Lipoprotein (LDL) Analysis:

| Cardiovascular disease risk | When to consider initiating treatment | Treatment target |
|---|---|---|
| High and intermediate | LDL level of ≥ 3.5 mmol/L | LDL level of < 2.0 mmol/L or<br>≥ 50% reduction in pretherapy LDL level |
| Low | LDL level of ≥ 5.0 mmol/L | ≥ 50% reduction in pretherapy LDL level |

The patient has done some research on the internet about the adverse effects of statin therapy. She thinks that her initial LDL level of 2.8 mmol/L was within normal range and that she does not require treatment. Which one of the following is the best next step?

A. Assess the patient's understanding of the risks and benefits of statin therapy in secondary ischemic stroke prevention.
B. Discontinue atorvastatin while closely monitoring the patient's cholesterol levels.
C. Tell the patient she is at high risk after an ischemic stroke and insist she remain on her current therapy.
D. Provide the patient with journal articles to review and plan to discuss them at the next visit.
E. Explain that the internet is not a reliable source of medical information.

---

**41.** An 85-year-old woman presents to your clinic with worries that she might have angina and is requesting a referral to a cardiologist. She tells you that her sister had an acute myocardial infarction at age 80 years. On history, the patient is symptom-free. She does not report chest pain, shortness of breath, or palpitations, and she can walk 2 blocks on flat terrain without difficulty. Physical examination findings are normal. Which one of the following is the best next step?

A. Discuss the risks of cardiac screening
B. Check the patient's lipid profile
C. Order a treadmill stress test
D. Initiate acetylsalicylic acid
E. Prescribe lorazepam

---

**42.** A 47-year-old woman presents to your clinic for follow-up of asthma that was diagnosed 2 years ago. Despite appropriate medication, her symptoms are not well controlled. At her last visit, she mentioned that a nurse at her workplace suggested her condition may be work-related. Today, she would like you to complete the necessary forms so she can file for workers' compensation. Which one of the following is the best next step?

A. Complete the forms provided by the patient.
B. Tell the patient you do not treat workers' compensation cases.

C. Explain that a nurse cannot determine if asthma is work-related.
D. Inform the patient that the claim will be rejected.

---

**43.** A 67-year-old woman presents to your clinic for follow-up after a recent diagnosis of type 2 diabetes. You discuss medications, diet, and exercise, and give her educational pamphlets on self-management and community resources. Which one of the following factors is the biggest predictor of success for this intervention?

A. The quality of the educational materials provided.
B. Ease of access to appointments at your clinic.
C. Whether the patient has a drug insurance plan.
D. The patient's level of health literacy.

---

**44.** A 10-year-old boy is brought by his mother to your walk-in clinic after falling on a sports field 30 minutes ago. He was previously well. He lost his upper medial incisor tooth in the fall. Physical examination findings are otherwise normal. The mother is holding the avulsed tooth in her hand. Before referring the patient to a dentist, which one of the following is the best next step?

A. Rinse the tooth and reinsert it into the socket.
B. Administer prophylactic antibiotics.
C. Keep the avulsed tooth in a chlorhexidine solution.
D. Pack the socket with gauze.

---

**45.** A 31-year-old woman presents to the emergency department 1 week after laparoscopic tubal ligation. She has a fever, increasing abdominal pain, and cachexia. During urgent laparotomy, a small-bowel perforation with abscess formation is found. After definitive surgical treatment, which one of the following should be disclosed to the patient?

A. Spontaneous bowel perforation is common after laparoscopic surgery.
B. The perforation was a result of poor surgical technique.
C. How the abscess developed is uncertain.
D. The bowel injury was most likely iatrogenic.

---

**46.** A 23-year-old woman presents to your clinic with a 1-week history of feeling very fatigued, and over the past 3 days, she has developed a fever and a sore throat. Mononucleosis is diagnosed. She is a university rugby player. Which one of the following counselling interventions is most important for this patient?

A. Determine her willingness to avoid playing rugby for 4 weeks.
B. Advise her to avoid hugging people and shaking their hands for 4 to 6 weeks.
C. Emphasize the importance of disclosing her illness to recent intimate partners.
D. Recommend a medical leave from her studies for the semester.
E. Tell her to monitor for dark urine and yellow sclera.

**47.** A 78-year-old patient is brought to your clinic for assessment. The patient has Alzheimer disease. Twice in the past month, he was found wandering outside. Both times were at night and he was not dressed appropriately for winter. His son, who acts as his main caregiver, is not concerned by this situation and states that "he always finds his way back home." Physical examination of the patient reveals malnutrition and poor dental hygiene. Which one of the following is the best next step?

A. Report your suspicion of adult physical abuse to the appropriate authority.
B. Encourage the patient to choose an alternative living situation.
C. Perform a Montreal Cognitive Assessment (MoCA) on the patient.
D. Arrange for the patient to be moved to an assisted-living facility.

---

**48.** A 60-year-old man presents to your clinic for a routine health examination. He quit smoking tobacco cigarettes 12 years ago; before that, he smoked 2 packs a day since the age of 17 years. The patient asks about lung cancer screening. Which one of the following is the best next step?

A. Explain that screening is unnecessary, as the quit date is more than 10 years ago.
B. Suggest annual screening with magnetic resonance imaging.
C. Discuss annual low-dose computed tomography.
D. Advise radiography and sputum cytology every 6 months.

---

**49.** A 25-year-old woman experiences a stillbirth at 22 weeks' gestation after her husband physically assaulted her. She is alone at the hospital and has limited social support. Which one of the following is the most appropriate next step?

A. Ensure a health care professional is always present in the patient's room.
B. Contact the patient's husband to obtain additional history.
C. Give the patient the opportunity to hold her baby in her arms.
D. Send the fetus to pathology immediately for an autopsy.
E. Call the police to report the assault.

---

**50.** A 17-year-old girl presents to your clinic with acute dysuria and suprapubic abdominal pain. This is the first time she has seen someone for this issue, even though she has had 2 similar episodes in the past 6 months. She is otherwise healthy. In the assessment of this case, which one of the following is the most appropriate next step?

A. Evaluate the timing of the patient's sexual intercourse.
B. Assess the upper urinary tract with computed tomography urography.
C. Arrange for a consultation in urology with cystoscopy.
D. Do not pursue any further investigation.
E. Recommend pelvic ultrasonography.

**51.** A 3-year-old boy is brought by his parents to your clinic for follow-up 2 weeks after receiving a diagnosis of IgA vasculitis (Henoch-Schönlein purpura). The patient was previously healthy. No new symptoms are reported. Which one of the following would be most helpful in predicting the most likely prognosis?

A. Complete blood count
B. Immunoglobulin E (IgE) level
C. Abdominal ultrasonography
D. Urinalysis

**52.** A 34-year-old woman presents to your clinic with a request to order a list of blood tests that her naturopathic doctor has recommended. The patient has chronic fatigue. She says that under the government-funded health plan, the tests are covered if ordered by a physician; otherwise, she would have to pay for them herself. Which one of the following is the best next step?

A. Assess the concern to decide if any tests are medically indicated.
B. Order the full list of tests because the naturopath is in the circle of care.
C. Order some tests to help the patient financially and maintain a positive relationship.
D. Explain that you cannot interfere with the care plan of another doctor.

**53.** A 27-year-old woman presents to your clinic with a history of progressively heavier menses. She has no significant medical history. Physical examination findings are normal. Her BMI is 26. Laboratory results are as follows:

| | |
|---|---|
| Ferritin, blood | 5 µg/L (11–307) |
| Thyroxine, free ($FT_4$), blood | 2.0 pmol/L (7.0–17.0) |
| Hemoglobin (Hgb), blood | 119 g/L (115–155) |
| Prolactin, blood | 42 µg/L (3–27) |
| Thyrotropin (thyroid-stimulating hormone), blood | 14.00 mIU/L (0.34–5.60) |

Which one of the following is the best next step?

A. Levothyroxine therapy
B. Thyroid nuclear scan
C. Iron storage study
D. Pelvic ultrasonography
E. Endometrial biopsy

**54.** A 30-year-old woman, gravida 1, para 0, aborta 0, is brought to the emergency department after a seizure. Her pregnancy is at 34 weeks' gestation. Her prepregnancy history is significant for well-controlled essential hypertension. She is conscious during the physical examination. Her blood pressure is 160/105 mm Hg, and her heart rate is 120/min. Which one of the following is the best next step?

A. Administer intravenous diazepam.
B. Give intrarectal lorazepam.
C. Start magnesium sulfate intravenously.
D. Load with phenytoin intravenously.
E. Begin hydralazine infusion.

---

**55.** A 65-year-old woman presents to your clinic with fatigue. She has a history of hypertension and osteoporosis. She takes 25 mg of oral chlorthalidone daily, 500 mg of oral calcium twice daily, and 1000 IU of oral vitamin D daily. Her blood pressure is 142/94 mm Hg. Her laboratory results are as follows:

| | |
|---|---|
| Potassium (K), blood | 3.4 mmol/L (3.5–5.1) |
| Thyrotropin (thyroid-stimulating hormone), blood | 2.10 mIU/L (0.34–5.60) |
| Parathyroid hormone (PTH), blood | 20.0 pmol/L (1.6–9.3) |
| Hemoglobin (Hgb), blood | 116 g/L (115–155) |
| Sodium (Na), blood | 142 mmol/L (136–146) |
| Cortisol, a.m., blood | 450 nmol/L (185–624) |
| Albumin, blood | 42 g/L (34–50) |
| Creatinine, blood | 89 µmol/L (22–75) |
| Phosphate ($PO_4$), blood | 1.30 mmol/L (0.81–1.58) |
| Calcium, ionized, blood | 1.59 mmol/L (1.14–1.28) |

Which one of the following is the most appropriate treatment?

A. Increase the diuretic dose.
B. Perform a parathyroidectomy.
C. Add a second antihypertensive medication.
D. Augment the vitamin D supplement dosage.

## **Section 2**: Answers, rationales and references

1. Which one of the following statements best applies?

    **A.** Treated patients were 20 times less likely to die than untreated patients.

    **B.** **The probability is 1 in 20 that the observed differences could have happened by chance alone.**

    **C.** The chance is 1 in 20 that a difference would be found again if the trial were repeated.

    **D.** An improved chance of survival was noted for 19 of 20 patients treated.

    **E.** The mortality rate for patients was less than 1 in 20.

    **Rationale**

    The notation "(*P* = .05)" indicates that there is a 5% probability, or 1 in 20 chance, that the observed differences in case fatality rates between the treated and untreated groups could have occurred due to chance alone. This statistical significance suggests that the results are unlikely to be due to random variation, thus supporting the efficacy of the drug in reducing mortality. The *P* value does not provide information about the magnitude of the effect nor does it predict future outcomes, reflect individual patient outcomes, or measure mortality rates. Therefore, all the other options are incorrect.

    **Reference**

    Tenny S, Abdelgawad I. *Statistical significance*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated November 23, 2023.

---

2. Which one of the following is most likely to confirm the diagnosis?

    **A.** Uric acid level

    **B.** Antinuclear antibodies test

    **C.** **Radiography of the sacroiliac joints**

    **D.** Rheumatoid factor level

    **E.** Synovial fluid analysis

    **Rationale**

    This clinical vignette is suggestive of a spondyloarthropathy, particularly ankylosing spondylitis. Radiography of the sacroiliac joints is crucial in confirming this diagnosis as radiographs can reveal sacroiliitis, a hallmark of ankylosing spondylitis. This imaging can show changes such as joint space narrowing, sclerosis, or erosions, which are indicative of the disease. Uric acid level is typically used to diagnose gout, which presents with acute joint inflammation but does not align with the chronic back pain and stiffness described. An antinuclear antibodies test is more relevant for autoimmune conditions like lupus, which does not match the patient's symptoms. Rheumatoid factor level is associated with rheumatoid arthritis, which usually involves multiple joints symmetrically and does not typically cause low back pain. Synovial fluid analysis is useful for

diagnosing infections or crystal-induced arthritis but does not provide information about the sacroiliac joints or chronic back pain.

**Reference**

Ostergaard M, Lambert RG. *Imaging in ankylosing spondylitis*. Therapeutic Advances in Musculoskeletal Disease. 2012;4(4):301–311.

---

3. Which one of the following is the best next step?

   **A.** Computed tomography of the neck.
   **B.** Thyroid antibody levels.
   **C.** Fine-needle aspiration of the thyroid.
   **D.** Repeat thyroid ultrasonography in 6 months.
   **E.** **Thyroid uptake and scan.**

**Rationale**

Serum thyrotropin measurement and neck ultrasonography are recommended in all patients with a thyroid nodule. A suppressed thyrotropin level suggests an autonomously functioning nodule, and a thyroid scan with iodine-123 should be performed. If the thyrotropin level is normal or high, fine-needle aspiration biopsy should be considered. Computed tomography is inappropriate because the patient has no family history of thyroid cancer and has never had neck radiation. In addition, the low thyrotropin level indicates a low risk for the nodule being cancerous. A repeat ultrasonography in 6 months will delay diagnosis. Fine-needle aspiration is an unnecessary invasive test at this stage. Measuring thyroid antibody levels is more useful in diffuse enlargement of the thyroid.

**Reference**

Moubayed P, Urken ML. *Thyroid nodules*. CMAJ. 2016;188(17–18):1259.

Ross DS. *Diagnostic approach to and treatment of thyroid nodules in adults*. UpToDate. Updated July 8, 2024.

---

4. Which one of the following is the most likely diagnosis?

   **A.** Interstitial cystitis
   **B.** Prostate cancer
   **C.** Neurogenic bladder
   **D.** Chronic cystitis
   **E.** **Overflow incontinence**

Rationale

The described symptoms are characteristic of overflow incontinence, which occurs when the bladder is unable to empty properly, leading to frequent leakage as the bladder overfills. This condition is often due to bladder outlet obstruction, commonly caused by benign prostatic

hyperplasia in older men, which aligns with the patient's age and symptoms. Interstitial cystitis, a chronic condition causing bladder pressure and pain, does not typically present with overflow symptoms or a constant feeling of fullness. Prostatic cancer might cause urinary symptoms but is less likely to present with the specific pattern of overflow incontinence without other systemic signs. Neurogenic bladder, resulting from nerve damage, could cause similar symptoms but would likely be accompanied by other neurologic signs and symptoms. Chronic cystitis, a persistent bladder infection, would present with pain and dysuria rather than incontinence.

**Reference**

Leslie SW, Tran LN, Puckett Y. *Urinary incontinence*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated August 11, 2024.

---

5. Which one of the following in the patient's history would be most important to consider?

   **A.** Frequent vomiting
   **B.** Family history of epilepsy
   **C.** **Academic performance**
   **D.** Exposure to allergens

**Rationale**

This presentation is suggestive of a tic disorder. The most important aspect of the patient's history to consider is his academic performance. This is because tic disorders, such as Tourette syndrome, often co-occur with neurodevelopmental disorders, like attention-deficit/hyperactivity disorder, or learning disabilities, which can significantly impact a child's academic performance. Evaluating his academic performance can provide insights into whether these tics are affecting his ability to concentrate and succeed in school, which is crucial for his overall development and well-being. Frequent vomiting is not directly related to the symptoms of a cough or the tics described. A family history of epilepsy might be relevant if seizures were suspected, but the symptoms here are more indicative of tics rather than epileptic activity. Exposure to allergens could explain a cough but not the associated tics, and the cough's nature and timing (not occurring at night) make an allergic cause less likely.

**Reference**

Fymat AL. *Tourette's syndrome: II. Diagnosis and symptoms management*. Journal of Neurology and Psychology Research. 2023;5(1).

---

6. Which one of the following is the best next step?

   **A.** Call the police officer after you review the patient's file.
   **B.** **Contact the patient to discuss the request.**
   **C.** Send the police officer a medicolegal report.
   **D.** Refuse to speak with the police officer.

**Rationale**

In this scenario, the primary concern is the patient's safety and confidentiality. The best approach respects the patient's autonomy and confidentiality, ensuring that any disclosure of medical information is done with her consent. Discussing the request with the patient allows her to be involved in the decision-making process and ensures that her wishes are respected, which is crucial given her vulnerable situation. Calling the police officer back after reviewing the patient's file does not address the issue of patient consent and involvement. Sending a medicolegal report without the patient's consent also violates confidentiality principles. Refusing to speak with the police officer does address the issue of patient consent and confidentiality but is not helpful to the patient, who may wish to provide consent.

**Reference**

Canadian Medical Protective Association. *Physician interactions with police*. Published March 2011. Revised June 2023.

---

7. Which one of the following is the best advice to give the patient about weight gain during pregnancy?

   **A.** She should gain 12 kg to 18 kg.
   **B.** **Her weight gain should be based on her prepregnancy BMI.**
   **C.** Her risk of having a macrosomic neonate is lower if she gains 11 kg to 16 kg.
   **D.** She should gain 400 g each week during the second trimester.
   **E.** She should begin a calorie-restricted diet.

**Rationale**

It is crucial to consider prepregnancy BMI when discussing weight gain during pregnancy. Women with a higher BMI, such as this patient, are generally advised to gain less weight during pregnancy compared with those who have a BMI in the normal range. Suggesting a weight gain of 12 kg to 18 kg is inappropriate for a woman with a higher BMI, as it exceeds the recommended guidelines. Adhering to recommendations for gestational weight gain minimizes the risk of macrosomia, however the weight gain recommended for a BMI > 30 would be 5-9 kg (average recommended weight gain for a normal BMI is 11.5-16 kg). The suggestion to gain 400 g each week during the second trimester does not account for her specific BMI category and could lead to excessive weight gain. Advising a calorie-restricted diet is not typically recommended during pregnancy, as it may not provide adequate nutrition for fetal development.

**References**

Maxwell C, Gaudet L, Cassir G, et al. *Guideline No. 391—Pregnancy and maternal obesity Part 1: Pre-conception and prenatal care*. Journal of Obstetrics and Gynaecology Canada. 2019;41(11):1623–1640.

Health Canada. *Prenatal nutrition guidelines for health professionals: gestational weight gain*. Modified July 25, 2024. Accessed February 19, 2025.

8. Which one of the following medications is the most indicated?

   **A.** Fluoxetine
   **B.** Venlafaxine
   **C.** **Bupropion**
   **D.** Clomipramine
   **E.** Phenelzine

**Rationale**

Anejaculation is a known adverse effect of selective serotonin reuptake inhibitors (SSRIs), and switching to an antidepressant with a lower risk of adverse effects on sexual function is a reasonable approach. Bupropion is the most indicated medication in this scenario because it is an atypical antidepressant that primarily affects norepinephrine and dopamine reuptake, rather than serotonin. This mechanism of action is associated with a lower incidence of adverse effects on sexual function, making it a suitable alternative for patients experiencing SSRI-induced sexual dysfunction. Fluoxetine, another SSRI, is likely to cause similar sexual dysfunction as paroxetine. Venlafaxine, a serotonin-norepinephrine reuptake inhibitor (SNRI), also carries a risk of adverse effects on sexual function. Clomipramine, a tricyclic antidepressant, affects serotonin reuptake and is likely to exacerbate sexual dysfunction. Phenelzine, a monoamine oxidase inhibitor (MAOI), has a complex adverse effect profile and dietary restrictions, making it less favourable.

**Reference**

Lipman K, Betterly H, Botros M. *Improvement in selective serotonin reuptake inhibitor-associated sexual dysfunction with buspirone*: Examining the evidence. Cureus. 2024;16(4):e57981.

9. These symptoms are indicative of which one of the following personality disorders?

   **A.** Antisocial
   **B.** Narcissistic
   **C.** Schizotypal
   **D.** **Borderline**
   **E.** Histrionic

**Rationale**

This patient's sense of abandonment following a breakup and the perception of being unpredictable to others align with borderline personality disorder, characterized by instability in relationships, self-image, and emotions. The description of feeling empty and having an unstable mood are particularly indicative of borderline personality disorder, as individuals with this disorder often experience intense emotional fluctuations and a chronic sense of inner void. Antisocial personality disorder is marked by a disregard for others' rights and a lack of remorse, which are not evident here. Narcissistic personality disorder involves grandiosity and a need for admiration, which are not highlighted in this vignette. Schizotypal personality disorder is characterized by eccentric behaviour and cognitive or perceptual distortions, which are not present. Histrionic personality disorder

involves excessive emotionality and attention-seeking, but the key symptoms of emptiness and mood instability in this case are more aligned with borderline personality disorder.

**Reference**

American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, Fifth Edition, Text Revision (DSM-5-TR). Washington (DC): American Psychiatric Association Publishing; March 15, 2022:862.

---

10. Which one of the following is the most likely diagnosis?

    **A.** Schizophrenia
    **B.** Schizoaffective disorder
    **C.** Body dysmorphic disorder
    **D.** **Delusional disorder**
    **E.** Major depressive disorder with psychotic features

**Rationale**

This presentation aligns most closely with delusional disorder, which is characterized by the presence of one or more delusions that persist for at least 1 month without the full criteria for schizophrenia being met. This diagnosis is further supported by the absence of hallucinations and the retention of a good range of affect, as these features are inconsistent with schizophrenia or schizoaffective disorder; hallucinations and mood disturbances are prominent in these disorders. Body dysmorphic disorder is unlikely, as the delusions are not related to perceived defects in his appearance. Major depressive disorder with psychotic features would typically involve mood symptoms and possibly auditory hallucinations, neither of which are present in this case. The patient's ability to return to work and maintain functionality also suggests a more isolated delusional process rather than a broader psychotic or mood disorder.

**References**

Boland R, Verduin ML. *Chapter 12: Schizophrenia and Other Psychotic Disorders*; Section 12.16: Other Psychotic Disorders; Subsection 12.16c: Delusional Disorder and Shared Psychotic Disorder. Kaplan & Sadock’s Comprehensive Textbook of Psychiatry, 11th ed. Wolters Kluwer; 2024: 1525.

Joseph SM, Siddiqui W. *Delusional disorder*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; March 27, 2023.

---

11. Which one of the following is the best next step?

    **A.** Tell the patient to direct his concerns to the local medical regulatory authority.
    **B.** **Express your regret and explore the patient's concerns.**
    **C.** Reassure the patient that his symptoms will eventually resolve.
    **D.** Offer to immediately transfer the patient's care to a colleague.

**Rationale**

The most appropriate initial response is to express regret and explore the patient's concerns. This demonstrates empathy and a willingness to understand the patient's perspective, which can help de-escalate the situation and potentially resolve the patient's dissatisfaction. This response also aligns with professional standards of patient care, which emphasize communication and patient-centred care. Telling the patient to direct his concerns to the local medical regulatory authority may come across as dismissive and could escalate the situation further. Reassuring the patient that his symptoms will eventually resolve might seem dismissive of his current concerns and may not be true, as permanent disability may occur in a minority of severe cases. Offering to immediately transfer his care to a colleague could be perceived as avoiding responsibility and may not address the underlying issues causing the patient's dissatisfaction.

**Reference**

Canadian Medical Protective Association. *Challenging patient encounters: How to safely manage and de-escalate*. Published June 2021.

---

12. Which one of the following is the most likely cause of the increased bleeding in this patient?

    **A.** Uterine atony
    **B.** **Coagulopathy**
    **C.** Cervical laceration
    **D.** Uterine rupture
    **E.** Endometritis

**Rationale**

The patient's history of heavy menstrual bleeding suggests an underlying bleeding disorder, pointing towards coagulopathy as the most likely cause of the increased bleeding. Coagulopathy can lead to excessive bleeding due to the inability of the blood to clot properly, which aligns with the patient's symptoms of profuse bleeding and hypotension despite a firm uterine fundus. Uterine atony can be ruled out as the cause of bleeding, since uterine atony would typically result in a soft and boggy uterus. Uterine rupture is also unlikely given the firm fundus and the absence of severe abdominal pain or signs of shock that would accompany such a rupture. Endometritis, an infection of the uterine lining, would not present so acutely with profuse bleeding immediately postpartum. Cervical laceration could cause bleeding, but the firm fundus 2 hours after the delivery and the absence of trauma or instrumental delivery makes it less likely.

**References**

Wormer KC, Jamil RT, Bryant SB. *Postpartum hemorrhage*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated July 19, 2024.

Poggi SBH. *Postpartum hemorrhage & the abnormal puerperium*. In: DeCherney AH, Nathan L, Laufer N, Roman AS, eds. CURRENT Diagnosis & Treatment: Obstetrics & Gynecology. 12th ed. New York (NY): McGraw-Hill Education; 2019.

13. Which one of the following is the best management at this time?

**A.** Reassure the mother that there are no concerns.

**B. Refer the patient to a pediatrician for further assessment.**

**C.** Ensure a hearing screening is done and passed.

**D.** Refer the patient for genetic counselling.

**Rationale**

This presentation suggests that the infant's development is not progressing as expected for his age. The correct management is to refer him to a pediatrician for further assessment, as this will allow for a comprehensive evaluation of his developmental milestones and the identification of any underlying issues that may require intervention. Reassuring the mother without further investigation could overlook potential developmental disorders. Ensuring a hearing screening is done and passed is important, but the primary concern here is motor development, not auditory function. Referring the patient for genetic counselling is not immediately warranted without a specific suspicion of a genetic disorder.

**Reference**

Dunfield L, Mitra D, Tonelli M, Fitzpatrick-Lewis D, Rice M. *Protocol: Screening and treatment for developmental delay in early childhood*. Canadian Task Force on Preventive Health Care; 2014.

14. Which one of the following is the most appropriate recommendation?

**A. The condition requires treatment with laxatives.**

**B.** Surgical intervention will most likely be needed.

**C.** Magnetic resonance imaging of the spine should be performed.

**D.** A barium enema would confirm the diagnosis.

**E.** Referral to a psychiatrist is necessary.

**Rationale**

This clinical vignette describes a 5-year-old patient experiencing encopresis. The details presented suggest fecal impaction, a common cause of encopresis in children, where softer stool leaks around the impacted mass. The recommendation to treat the problem with laxatives is appropriate as it addresses the underlying issue of fecal impaction by softening the stool and promoting regular bowel movements. Surgical intervention is not typically required for fecal impaction unless there are complications, making it an unnecessary step at this stage. Magnetic resonance imaging of the spine is not indicated as there are no neurologic symptoms suggesting spinal issues. A barium enema is not needed for diagnosis, as the clinical presentation is sufficient to identify fecal impaction. Referral to a psychiatrist is premature, as the issue is likely physiologic rather than psychological.

**Reference**

Shen ZY, Zhang J, Bai YZ, Zhang SC. *Diagnosis and management of fecal incontinence in children and adolescents*. Frontiers in Pediatrics. 2022;10:1034240.

15. Which one of the following types of study is being performed by collecting this data?

- **A.** Case-controlled observational
- **B.** Cohort observational
- **C. Descriptive observational**
- **D.** Randomized controlled
- **E.** Analytical observational

**Rationale**

This approach aligns with a descriptive observational study, which is designed to gather information about the prevalence and distribution of a condition within a specific population. The primary aim is to describe the patterns of disease, such as who is affected, where, and when, without attempting to establish a cause-and-effect relationship. A case-controlled observational study would involve comparing individuals with dermatitis to those without to identify potential risk factors. A cohort observational study would follow a group over time to see who develops dermatitis. A randomized controlled study involves the random assignment of interventions to study their effects, which is not applicable here as no intervention is being tested. Analytical observational studies seek to identify associations or causal links between exposures and outcomes.

**Reference**

Aggarwal R, Ranganathan P. *Study designs: Part 2 – Descriptive studies*. Perspectives in Clinical Research. 2019;10(1):34–36.

16. Which one of the following is the most likely diagnosis?

- **A.** Pulmonary embolism
- **B. Pleural effusion**
- **C.** Heart failure
- **D.** Pneumothorax
- **E.** Pneumonia

**Rationale**

This presentation is indicative of pleural effusion, which is the accumulation of fluid in the pleural space. The dullness to percussion is a key feature that distinguishes pleural effusion from other conditions. Pulmonary embolism typically presents with sudden onset dyspnea and may have normal auscultation findings or wheezing, but it does not cause dullness to percussion. Heart failure can lead to pleural effusion, but it would likely present with bilateral findings rather than unilateral. Pneumothorax would present with hyperresonance to percussion, not dullness, and decreased breath sounds. Pneumonia could cause dullness to percussion and decreased breath sounds, but it is often associated with fever, cough, and other systemic symptoms, which are not mentioned in this vignette. The patient's history of pancreatitis and the unilateral nature of the findings further support the diagnosis of pleural effusion, likely due to inflammation or infection related to the pancreatitis.

**References**

Brownson EG, Mandell K. In: *Chapter 21: The Acute Abdomen*. CURRENT Diagnosis & Treatment: Surgery,16th ed. New York (NY): McGraw-Hill Education; 2014.

Berg M, Shabbir R. *Pleural effusion*. Emergency Care BC, Provincial Health Services Authority. Reviewed on October 10, 2023.

---

17. Which one of the following is the most likely etiology of this laboratory abnormality?

    **A. Rhabdomyolysis**
    **B.** Nephrotoxic agent
    **C.** Sepsis

**Rationale**

Rhabdomyolysis occurs when damaged muscle tissue releases its contents, including myoglobin, into the bloodstream, leading to acute kidney injury and elevated creatinine levels, as seen in this patient. The rise in creatinine to 350 µmol/L (49–93) is indicative of renal impairment, commonly associated with rhabdomyolysis due to the nephrotoxic effects of myoglobin. Nephrotoxic agents could indeed cause renal impairment, but there is no mention of such agents in the vignette. Sepsis can lead to acute kidney injury, but the vignette does not provide evidence of infection or systemic inflammatory response.

**Reference**

Stanley M, Chippa V, Aeddula NR, Bryan S, Rodriguez Q, Adigun R. *Rhabdomyolysis*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated December 11, 2024.

---

18. Which one of the following medications is most appropriate to recommend?

    **A.** Lithium
    **B.** Lorazepam
    **C.** Methylphenidate
    **D.** Mirtazapine
    **E. Risperidone**

**Rationale**

This presentation is indicative of conduct disorder. Given the elimination of attention-deficit/hyperactivity disorder (ADHD) as a diagnosis, the focus shifts to managing the aggressive and antisocial behaviours. Risperidone, an atypical antipsychotic, is effective in reducing aggression and irritability in children with conduct disorder and other behavioural issues. It is often used when behavioural interventions alone are insufficient, as in this case where the mother has already participated in parenting courses. Lithium is primarily used for mood stabilization in bipolar disorder and is not typically indicated for conduct disorder in children. Lorazepam, a benzodiazepine, is used for anxiety and sedation but is not suitable for long-term management of aggression in children due to the risk of dependency and adverse effects. Methylphenidate is a

stimulant used for ADHD, which has been ruled out in this case. Mirtazapine is an antidepressant and is not indicated for aggressive behaviour in children.

**Reference**

Arnold MJ, Moody AL. *Atypical antipsychotics for disruptive behavior disorders in children and adolescents*. American Family Physician. 2018;97(11):715–716.

---

19. Which one of the following is the best next step?

    **A.** Assess the fetal heart rate and perform an ultrasonography.
    **B.** Obtain obstetric history and perform a detailed systems review.
    **C.** Consult anesthesiology and perform an immediate cesarean delivery.
    **D.** Provide analgesia for the back pain.
    **E.** **Place 2 large-bore intravenous lines and start a fluid bolus.**

**Rationale**

This presentation suggests a potential obstetric emergency, such as placental abruption, which can lead to significant maternal and fetal morbidity if not promptly addressed. The immediate priority in managing this situation is to hemodynamically stabilize the mother, as maternal well-being directly impacts fetal health. Placing 2 large-bore intravenous lines and starting a fluid bolus is crucial to address potential hypovolemia and prevent further deterioration. While assessing the fetal heart rate and performing an ultrasonography are important for evaluating fetal status, they do not address the immediate threat to the mother's life. Obtaining a detailed obstetric history and consulting anesthesiology for a cesarean delivery are secondary considerations that can be pursued once the mother's condition is stabilized. Providing analgesia for back pain does not address the underlying cause of her symptoms and could delay necessary interventions.

**References**

Brandt JS, Ananth CV. *Placental abruption at near-term and term gestations: Pathophysiology, epidemiology, diagnosis, and management*. American Journal of Obstetrics & Gynecology. 2023;228(5):S1313–S1329.

Wagner SA. *Third-trimester vaginal bleeding*. In: DeCherney AH, Nathan L, Laufer N, Roman AS, eds. CURRENT Diagnosis & Treatment: Obstetrics & Gynecology. 12th ed. New York (NY): McGraw-Hill Education; 2019.

---

20. Which one of the following is the best next step?

    **A.** **Start desmopressin**
    **B.** Order a water restriction test
    **C.** Administer 5% dextrose in water intravenously at 75 mL/h
    **D.** Stop citalopram
    **E.** Measure serum osmolality

**Rationale**

These findings are indicative of diabetes insipidus, a condition often associated with pituitary surgery due to damage to the hypothalamus or pituitary stalk, leading to a deficiency in antidiuretic hormone. The best management step is to start desmopressin, a synthetic analog of antidiuretic hormone, to address the underlying cause of the patient's polyuria and hypernatremia. Administering 5% dextrose in water intravenously at 75 mL/h could help with hypernatremia but does not address the underlying antidiuretic hormone deficiency. Ordering a water restriction test is inappropriate in the context of clear clinical evidence of diabetes insipidus. Stopping citalopram is irrelevant to the current issue, as it does not contribute to the patient's condition. Measuring serum osmolality could provide additional information but is unnecessary given the clear clinical presentation.

**Reference**

Christ-Crain M, Gaisl O. *Diabetes insipidus*. La Presse Médicale. 2021;50(4):104093.

---

21. Which one of the following is the best next step?

    **A. Sedation and reduction**
    **B.** Emergent surgical repair
    **C.** Abdominal radiography
    **D.** Emergent scrotal ultrasonography
    **E.** Anti-inflammatories and reassurance

**Rationale**

This presentation is suggestive of an incarcerated inguinal hernia. The key findings include nontender testes in a normal position and mild tenderness over the mass, with no signs of infection on the overlying skin. These findings make testicular torsion less likely, as torsion typically presents with severe testicular tenderness and abnormal positioning. Emergent scrotal ultrasonography, while useful in evaluating testicular torsion, is not the best next step given the clinical suspicion of a hernia. Abdominal radiography is not indicated as it would not provide useful information for this condition. Anti-inflammatories and reassurance are inappropriate due to the acute nature of the symptoms and the potential for complications if the hernia is not addressed. Emergent surgical repair is necessary if manual reduction fails, but initial management should focus on attempting sedation and reduction to alleviate the obstruction and potentially avoid surgery.

**References**

M, East B, de Beaux AC. *Algorithm for management of an incarcerated inguinal hernia in the emergency settings with manual reduction: Taxis, the technique and its safety*. Hernia. 2021;25(5):1253–1258.

Hammoud M, Gerken J. *Inguinal hernia*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated August 8, 2023.

22. Which one of the following murmurs would be expected on auscultation of the patient's heart?

**A.** Systolic ejection murmur at the right upper sternal border.

**B.** Diastolic murmur in the pulmonic area.

**C.** **Holosystolic murmur at the lower left sternal border.**

**D.** Diastolic murmur in the apical region.

**E.** Mid-diastolic rumble over the apical area.

**Rationale**

This patient presents with signs suggestive of right-sided heart failure, likely due to his chronic obstructive pulmonary disease (COPD). The presence of c-v waves in the jugular venous pressure is indicative of tricuspid regurgitation. This is characterized by a holosystolic murmur that is best heard at the lower left sternal border, as the regurgitant flow occurs throughout systole. This murmur is often associated with right-sided heart failure and can be exacerbated by conditions that increase right ventricular pressure, such as COPD. Given the clinical context, the other options are less likely: A systolic ejection murmur at the right upper sternal border is typically associated with aortic stenosis. A diastolic murmur in the pulmonic area could suggest pulmonary regurgitation, which is less common. A diastolic murmur in the apical region is often linked to mitral stenosis; a mid-diastolic rumble over the apical area is also characteristic of mitral stenosis. Therefore, these other murmurs do not align with the jugular venous findings and the clinical picture of right-sided heart failure in this patient.

**Reference**

Hudzik B, Poloński L, Gąsior M. *Lancisi sign: Giant C–V waves of tricuspid regurgitation*. Internal and Emergency Medicine. 2016;11(8):1139–1140.

23. Which one of the following is the best next step?

**A.** Prescribe a high-protein, low-carbohydrate diet.

**B.** **Change to a different atypical antipsychotic medication.**

**C.** Counsel the patient to live with this adverse effect.

**D.** Refer the patient for bariatric surgery.

**Rationale**

This patient has experienced significant weight gain, a common adverse effect associated with atypical antipsychotic medications. The best next step is to change to a different atypical antipsychotic medication, as some have a lower propensity for causing weight gain. This approach directly addresses the root cause of the weight gain while maintaining the necessary treatment for schizoaffective disorder. Prescribing a high-protein, low-carbohydrate diet, while potentially beneficial for weight management, does not address the medication-induced weight gain and may not be sufficient alone. Counselling the patient to live with this adverse effect is not a viable option, as it disregards the patient's health and quality of life. Referring the patient for bariatric surgery is an extreme measure, typically reserved for cases where other interventions have failed and the patient's weight poses an immediate health risk.

**Reference**

Dayabandara M, Hanwella R, Ratnatunga S, Seneviratne S, Suraweera C, de Silva VA. *Antipsychotic-associated weight gain: Management strategies and impact on treatment adherence*. Neuropsychiatric Disease and Treatment. 2017;13:2231–2241.

---

24. Which one of the following is the best pharmacologic management?

    **A.** Discontinue alprazolam and begin buspirone 10 mg twice daily.
    **B.** Discontinue alprazolam and begin citalopram 20 mg daily.
    **C.** **Prescribe alprazolam 0.5 mg 4 times daily until the patient's physician returns.**
    **D.** Begin clonidine 0.1 mg twice daily until symptoms abate.
    **E.** Add quetiapine 25 mg twice daily until the patient's physician returns.

**Rationale**

This patient is experiencing symptoms consistent with benzodiazepine withdrawal after reducing her alprazolam dosage. The best pharmacologic management is to prescribe alprazolam at her usual dosage to prevent further withdrawal symptoms and stabilize her condition until her regular physician returns. Discontinuing alprazolam and starting buspirone or citalopram would not address the acute withdrawal symptoms and could potentially exacerbate her condition, as these medications do not provide immediate relief for benzodiazepine withdrawal. Clonidine, while it may help with some autonomic symptoms, does not address the underlying issue of benzodiazepine dependence and withdrawal. Adding quetiapine is not appropriate as it is an antipsychotic and does not target the specific withdrawal symptoms the patient is experiencing.

**Reference**

Conn DK, Hogan DB, Amdam L, et al. *Canadian guidelines on benzodiazepine receptor agonist use disorder among older adults*. Canadian Geriatrics Journal. 2020;23(1):116–122.

---

25. Which one of the following is the most appropriate therapy?

    **A.** Methylprednisolone
    **B.** Salbutamol
    **C.** **Epinephrine**
    **D.** Vasopressin
    **E.** Diphenhydramine

**Rationale**

This patient is experiencing symptoms indicative of an anaphylactic reaction following a penicillin injection. The most critical and effective treatment for anaphylaxis is the administration of epinephrine, which acts rapidly to constrict blood vessels, increase blood pressure, and reduce airway swelling and wheezing. While the other options may have roles in managing allergic reactions or symptoms, they do not address the acute life-threatening aspects of anaphylaxis as quickly or effectively as epinephrine. Methylprednisolone and diphenhydramine are more suited for

longer-term management of allergic reactions. Salbutamol is a bronchodilator that may be used for bronchospasm, but should not delay the administration of epinephrine. Vasopressin is not typically used in the acute management of anaphylaxis.

**Reference**

Pflipsen MC, Vega Colon KM. *Anaphylaxis: Recognition and management*. American Family Physician. 2020;102(6):355–362.

---

26. Prescribing morphine for this patient is best described as which one of the following?

    **A.** Medical negligence
    **B.** Medical assistance in dying (MAID)
    **C.** **Patient-centred care**
    **D.** End-of-life care

**Rationale**

Amyotrophic lateral sclerosis (ALS) is a progressive neurodegenerative disease that often leads to severe pain and discomfort, and managing this pain is a critical component of patient-centred care. Morphine, a potent opioid analgesic, is commonly used to alleviate severe pain when other treatments have failed, as in this case. The physician's intent was to provide relief from intractable pain, not to hasten death, distinguishing this action from medical assistance in dying (MAID), where the primary intent is to end life. Medical negligence would imply a failure to meet the standard of care, which is not evident here, as the prescription is a medically accepted practice for pain management in ALS. While the patient has a significant burden of illness from a progressive disease, there is nothing to indicate he had transitioned from active disease management to end-of-life care.

**References**

Busse JW, Craigie S, Juurlink DN**, et al.** *Guideline for opioid therapy and chronic noncancer pain*. CMAJ : Canadian Medical Association journal / journal de l'Association medicale canadienne. 2017;189(18):E659–E666.

Shoesmith C, Abrahao A, Benstead T, et al. *Canadian best practice recommendations for the management of amyotrophic lateral sclerosis*. CMAJ : Canadian Medical Association journal / journal de l'Association medicale canadienne. 2020;192(46):E1453–E1468.

---

27. Which one of the following vaccines should be delayed until after the patient's pregnancy?

    **A.** Inactivated influenza
    **B.** Hepatitis A
    **C.** **Measles, mumps, and rubella**
    **D.** Acellular pertussis
    **E.** Meningococcal

**Rationale**

The measles, mumps, and rubella (MMR) vaccine is a live attenuated vaccine, which means it contains a weakened form of the virus. Live vaccines are generally contraindicated during pregnancy due to the theoretical risk of harm to the fetus. Therefore, the MMR vaccine should be delayed until after pregnancy. In contrast, the inactivated influenza vaccine is safe and recommended during pregnancy to protect both the mother and the fetus from influenza. The hepatitis A vaccine, while not routinely recommended during pregnancy, can be administered if the risk of hepatitis A infection is high, as it is an inactivated vaccine. The acellular pertussis vaccine is not only safe but also recommended during pregnancy to protect the newborn from pertussis. Lastly, meningococcal vaccines, including inactivated formulations, can be given if there is a specific risk factor or clinical indication.

**Reference**

Public Health Agency of Canada. *Immunization in pregnancy and breastfeeding: Canadian Immunization Guide*. Last partial content update October 2024.

---

28. Which one of the following is the best next step?

    **A.** Observation
    **B.** Immobilization of the right arm
    **C.** Referral to neurology
    **D.** **Clavicular radiography**

**Rationale**

The examination findings of the newborn are suggestive of a brachial plexus injury, which is commonly associated with clavicular fractures sustained at birth. The newborn is uncomfortable with movement of the arm, which is further suggestive of a possible fracture. Clavicular radiography is the best next step to confirm or rule out a fracture. Observation alone is not appropriate as it may delay diagnosis and treatment of a potentially significant injury. Immobilization of the right arm without a definitive diagnosis could lead to unnecessary restriction and discomfort for the newborn. Referral to neurology is premature without first ruling out a fracture, which is a more common and immediate concern in this context.

**Reference**

Joyner B, Soto MA, Adam HM. *Brachial plexus injury*. Pediatrics in Review. 2006;27(6):238–239.

---

29. Which one of the following is the best next step?

    **A.** **Reassess blood pressure in 1 to 3 months.**
    **B.** Contact the surgeon regarding her surgical procedure.
    **C.** Recommend lifestyle modifications.
    **D.** Initiate pharmacotherapy at this visit.

**Rationale**

The findings suggest that this patient's blood pressure is elevated, but it is important to consider that a single elevated reading in a child is not sufficient to diagnose hypertension. Children can have transient elevations in blood pressure due to factors such as anxiety, especially in a clinical setting. Therefore, it is prudent to reassess her blood pressure in 1 to 3 months to determine if the elevation is persistent before making any further decisions. Immediate intervention, such as starting medication, is not warranted without confirming persistent hypertension. Her surgical procedure should not be affected as the elevated blood pressure is not an immediate threat to her health. Lifestyle modifications, while generally beneficial, are not immediately necessary without further evidence of sustained hypertension.

**Reference**

Flynn JT, Kaelber DC, Baker-Smith CM, et al. *Clinical practice guideline for screening and management of high blood pressure in children and adolescents*. Pediatrics. 2017;140(3):e20171904.

---

30. A 5-year-old boy is brought by his parents to your clinic because he snores and makes choking sounds when he sleeps. He also seems less active in the daytime. Which one of the following investigations should be ordered to confirm the diagnosis?

    **A.** Upper gastrointestinal series
    **B. Overnight polysomnography**
    **C.** Lateral radiography of the neck
    **D.** Nasopharyngeal endoscopy

**Rationale**

This presentation is suggestive of obstructive sleep apnea, characterized by snoring, choking sounds during sleep, and daytime lethargy. The most definitive investigation to confirm a diagnosis of obstructive sleep apnea is overnight polysomnography. This test is considered the gold standard as it comprehensively monitors various physiologic parameters during sleep, including airflow, respiratory effort, blood oxygen levels, and brain activity, providing a detailed assessment of sleep disturbances. An upper gastrointestinal series is used to evaluate gastrointestinal issues, not sleep-related breathing disorders. Lateral radiography of the neck might show enlarged adenoids but does not provide a functional assessment of sleep-related breathing. Nasopharyngeal endoscopy can visualize anatomical obstructions but lacks the ability to assess the dynamic changes during sleep that contribute to obstructive sleep apnea.

**Reference**

Tan HL, Gozal D, Kheirandish-Gozal L. *Obstructive sleep apnea in children: A critical update*. Nature and Science of Sleep. 2013;5:109–123.

31. Which one of the following is the most likely diagnosis?

**A. Osteomyelitis**
B. Osteosarcoma
C. Juvenile idiopathic arthritis
D. Transient synovitis

**Rationale**

This presentation strongly suggests osteomyelitis. Osteomyelitis is an infection of the bone, often caused by bacteria, and is characterized by localized pain, fever, and an inability to use the affected limb due to pain. The acute onset of symptoms and the specific location of tenderness align with this diagnosis. Osteosarcoma, a malignant bone tumour, is rare in this age group and usually presents with a more chronic course and possibly a palpable mass. Juvenile idiopathic arthritis could cause joint pain and reluctance to bear weight, but it usually involves multiple joints and a longer duration of symptoms. Transient synovitis, a common cause of hip pain in children, typically presents with less severe symptoms and is often preceded by a viral infection.

**References**

Canadian Paediatric Society. *Diagnosis and management of acute osteoarticular infections in children*. Position statement. Posted July 18, 2018; reaffirmed January 11, 2024.

Momodu II, Savaliya V. *Osteomyelitis*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated May 31, 2023.

32. Which one of the following is the most significant factor contributing to his fall?

A. Postural hypotension
B. Poorly controlled diabetes
C. Iron deficiency anemia
**D. Quetiapine**
E. Lithium

**Rationale**

Quetiapine is an antipsychotic medication that can cause sedation and impair motor coordination, increasing the risk of falls, especially in older patients (≥ 65 years) with cognitive impairment. The patient's history of schizoaffective disorder necessitates the use of such medication, but it also predisposes him to risks of falls because of its adverse effects. While postural hypotension could be a potential cause of falls, the patient's blood pressure readings do not indicate significant drops upon standing, making it a less likely contributor. Poorly controlled diabetes, as indicated by the elevated hemoglobin A1c level, can lead to neuropathy and other complications, but these are more chronic issues and less likely to cause an acute fall. Anemia is not a likely cause of his falls, as the hemoglobin level is only slightly below normal and not low enough to cause symptoms like dizziness or weakness that could lead to a fall. Lastly, the lithium level is below the therapeutic range, reducing the likelihood of lithium-related adverse effects such as dizziness or ataxia.

**Reference**

Guo M, Tao S, Xiong Y, et al. *Comparative analysis of psychiatric medications and their association with falls and fractures: A systematic review and network meta-analysis*. Psychiatry Research. 2024;338:115974.

---

33. Which one of the following is the best recommendation?

    **A.** Pantoprazole for 6 weeks.
    **B.** Endoscopic retrograde cholangiopancreatography and sphincterotomy.
    **C.** Four-month course of ursodeoxycholic acid.
    **D.** **Laparoscopic cholecystectomy.**
    **E.** Hyoscine butylbromide as needed.

**Rationale**

This presentation indicates biliary dyskinesia, a condition in which the gallbladder does not empty properly, leading to pain after eating fatty foods. The hepatobiliary iminodiacetic acid (HIDA) scan shows an ejection fraction of 6%, confirming poor gallbladder function. Laparoscopic cholecystectomy is the definitive treatment for biliary dyskinesia, as it is the surgical removal of the gallbladder. Other options are less appropriate: Pantoprazole is a proton pump inhibitor used for acid-related disorders and would not address gallbladder dysfunction. Endoscopic retrograde cholangiopancreatography (ERCP) and sphincterotomy are used for bile duct stones or sphincter of Oddi dysfunction, not impaired gallbladder emptying. Ursodeoxycholic acid is used for gallstone dissolution, not biliary dyskinesia. Hyoscine butylbromide is an antispasmodic that may temporarily relieve pain but does not treat the underlying cause.

**References**

University of Wisconsin School of Medicine and Public Health.
*Management of biliary dyskinesia*. Posted October 23, 2017.

Richmond BK. *Biliary dyskinesia—Controversies, diagnosis, and management: A review*. JAMA Surgery. 2024;159(9):1079–1084.

---

34. Which one of the following is the best next step?

    **A.** **Computed tomography angiography of the abdomen.**
    **B.** Capsule endoscopy.
    **C.** Barium small-bowel follow-through.
    **D.** Technetium-labelled red blood cell scan.

**Rationale**

This presentation raises the suspicion of an aortoenteric fistula, a rare but serious complication that can occur after abdominal aneurysm repairs. The presence of old blood in the distal duodenum on endoscopy suggests a currently inactive bleeding source that could be related to a vascular issue.

Computed tomography angiography of the abdomen is the most appropriate next step as it is a noninvasive imaging modality that can quickly and effectively identify vascular abnormalities by providing detailed images of the blood vessels. Capsule endoscopy is more suited for small-bowel evaluation and is not ideal for acute bleeding scenarios, especially when a vascular cause is suspected. A barium small-bowel follow-through is outdated and not useful in acute settings, as it does not provide real-time imaging and could obscure further endoscopic evaluation. A technetium-labelled red blood cell scan is used for detecting active bleeding, but it is less effective for identifying the source of bleeding when it is not currently active, as in this case.

**References**

Dorosh J, Lin JC. *Aortoenteric fistula*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated September 26, 2022.

Hagspiel KD, et al. *Diagnosis of aortoenteric fistulas with CT angiography*. Journal of Vascular and Interventional Radiology. 2007;18(4):497–504.

---

35. In addition to a complete blood count, which one of the following should be included in the initial investigation?

    **A. Lactate dehydrogenase**
    **B.** Alkaline phosphatase
    **C.** Bile acids
    **D.** Total bilirubin
    **E.** Troponins

**Rationale**

This patient presents with symptoms and signs suggestive of preeclampsia, a condition

characterized by hypertension and proteinuria in a pregnancy after 20 weeks' gestation. It is crucial to assess for hemolysis, elevated liver enzymes, and low platelet count (HELLP) syndrome, which is a severe form of preeclampsia. Lactate dehydrogenase is an important marker for hemolysis and tissue damage, making it a critical component of the initial investigation to evaluate for HELLP syndrome. In contrast, alkaline phosphatase is more relevant to liver function and bile acids are more relevant to cholestasis; neither of these directly assesses hemolysis or the severity of preeclampsia. Total bilirubin, while related to liver function and hemolysis, is not as specific as lactate dehydrogenase in this context. Troponins are cardiac markers and are not relevant to the diagnosis of preeclampsia or HELLP syndrome.

**References**

Magee LA, Poon LC, Roberts JM, et al. *SOGC Clinical Practice Guideline: Diagnosis, evaluation, and management of the hypertensive disorders of pregnancy: Executive summary*. Journal of Obstetrics and Gynaecology Canada. 2014;36(5):416–438.

Rosner JY, Mehta-Lee SS. *Chapter 26: Hypertension in pregnancy*. In: DeCherney AH, Nathan L, Laufer N, Roman AS, eds. CURRENT Diagnosis & Treatment: Obstetrics & Gynecology. 12th ed. New York (NY): McGraw-Hill Education; 2019.

36. Which one of the following is the best way to decrease the patient's risk of relapse?

**A.** Suggest that he take time off of work

**B.** **Advise him to maintain regular sleep-wake cycles**

**C.** Increase his lithium dosage

**D.** Organize a family meeting

**E.** Add a low-dose atypical antipsychotic

**Rationale**

In the context of a 22-year-old man with bipolar I disorder whose condition is stable with lithium, the best approach to decrease the risk of relapse, especially under work-related stress, is to maintain regular sleep-wake cycles. Sleep disturbances are a well-known trigger for mood episodes in individuals with bipolar disorder. Maintaining a consistent sleep schedule can help stabilize mood and prevent manic and depressive episodes. While taking time off work might temporarily reduce the patient's stress, it does not address the underlying need for routine and stability that regular sleep provides. Increasing the patient's lithium dosage is unnecessary because his condition is currently stable, and altering medication without signs of relapse could lead to adverse effects. Organizing a family meeting might provide support but does not directly impact the biological rhythms that influence mood stability. Adding a low-dose atypical antipsychotic is not warranted in the absence of symptoms and could introduce unnecessary medication risks.

**References**

*Why sleep rhythm is important for bipolar disorder?* Psychiatry and Clinical Psychopharmacology. 2013;23(Suppl):S43–S44.

Gold AK, Sylvia LG. *The role of sleep in bipolar disorder*. Nature and Science of Sleep. 2016;8:207–214.

37. After administering oxygen, which one of the following is the best next step?

**A.** Immediate intubation.

**B.** Urgent surgical stabilization with wires or plates.

**C.** **Optimization of pain control with an epidural analgesic.**

**D.** Emergency chest tube placement.

**Rationale**

The primary concern for this patient is ensuring adequate ventilation and oxygenation, which is compromised due to significant pain leading to shallow breathing. Optimizing pain control with an epidural analgesic is crucial as it directly addresses the pain, allowing the patient to breathe more deeply and effectively, thereby improving oxygenation and reducing the risk of respiratory complications. Immediate intubation is not necessary unless there is evidence of respiratory failure or inability to maintain adequate oxygenation despite pain management. Urgent surgical stabilization is typically reserved for severe cases where conservative management fails.

Emergency chest tube placement is not warranted as there is no indication of a pneumothorax or hemothorax in the vignette.

**Reference**

Golic DA, Svraka D, Keleman N, Petrovic S. *Epidural analgesia with surgical stabilization of flail chest following blunt thoracic trauma in patients with multiple trauma*. Frontiers in Medicine (Lausanne). 2018;5:280.

---

38. Which one of the following interventions is the most appropriate?

    **A.** Increase the patient's dosage of valproic acid by 250 mg twice daily.
    **B.** Prescribe an antidepressant and ask the patient to return in 2 weeks.
    **C.** Refer the patient and her partner for counselling.
    **D.** Discharge the patient immediately to reduce further secondary gain.
    **E.** **Discuss the stress of pregnancy termination.**

**Rationale**

An increase in seizure frequency without corresponding electroencephalogram changes suggests that the seizures may be psychogenic nonepileptic seizures, often linked to psychological stressors. Addressing the emotional impact of the recent pregnancy termination is crucial, as it may help alleviate the underlying psychological distress causing the seizures. Increasing the dosage of valproic acid is unlikely to be effective, as the seizures are not epileptic in nature. Starting an antidepressant without first addressing the immediate stressor may not be the most appropriate initial step, as the patient denies emotional symptoms and the root cause needs exploration. Immediate discharge could neglect the underlying issue and may not provide the patient with the necessary support. Referring the patient and her partner for counselling could be beneficial, but discussing the stress directly with the patient is a more immediate and focused intervention.

**References**

Reddy DS, Thompson W, Calderara G. *Does stress trigger seizures?* Evidence from experimental models. Current Topics in Behavioral Neurosciences. 2022;55:41–64.

Huff JS, Lui F, Murr NI. *Psychogenic nonepileptic seizures*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated February 25, 2024.

---

39. Which one of the following is the best next step?

    **A.** **Discharge the patient if there is no further dilation in 4 hours.**
    **B.** Administer indomethacin orally.
    **C.** Begin an infusion of magnesium sulfate.
    **D.** Administer intramuscular corticosteroids.
    **E.** Begin transferring the patient to a higher-level care facility.

**Rationale**

The negative fetal fibronectin test and minimal cervical dilation of 1 cm suggest that the patient is not in active preterm labour. Fetal fibronectin is a protein that acts as a marker for preterm delivery risk, and a negative result is reassuring, indicating a low likelihood of delivery within the next 2 weeks. Therefore, the best course of action is to observe the patient for 4 more hours to see if there is any progression in cervical dilation. If there is no change, it is safe to discharge her, as this indicates that the contractions are not leading to labour. Administering indomethacin or magnesium sulfate is unnecessary because these are used to manage preterm labour, which is not confirmed in this case. Intramuscular corticosteroids are used to enhance fetal lung maturity in imminent preterm birth, which is not the case here. Transferring the patient to a higher-level care facility is also unwarranted without evidence of active labour or complications.

**References**

Bennett T, Proudfit C, Roman AS. *Chapter 7: Normal & abnormal labor & delivery*. In: DeCherney AH, Nathan L, Laufer N, Roman AS, eds. CURRENT Diagnosis & Treatment: Obstetrics & Gynecology. 12th ed. New York (NY): McGraw-Hill Education; 2019.

Hutchison J, Mahdy H, Jenkins SM, Hutchison J. *Normal labor: Physiology, evaluation, and management*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated February 15, 2025.

---

40. Which one of the following is the best next step?

    **A. Assess the patient's understanding of the risks and benefits of statin therapy in secondary ischemic stroke prevention.**

    **B.** Discontinue atorvastatin while closely monitoring the patient's cholesterol levels.

    **C.** Tell the patient she is at high risk after an ischemic stroke and insist she remain on her current therapy.

    **D.** Provide the patient with journal articles to review and plan to discuss them at the next visit.

    **E.** Explain that the internet is not a reliable source of medical information.

**Rationale**

The correct approach is to assess the patient's understanding of the risks and benefits of statin therapy in secondary ischemic stroke prevention. This approach engages the patient in a discussion about her treatment, addresses her concerns, and provides education on the importance of statins in reducing the risk of recurrent strokes. Discontinuing atorvastatin without a thorough discussion could lead to an increased risk of another stroke, as the patient's low-density lipoprotein (LDL) level before therapy was above the target for high-risk individuals. Insisting that the patient remain on therapy without addressing her concerns may lead to nonadherence and does not foster a collaborative physician-patient relationship. Providing journal articles may overwhelm the patient and delay addressing her immediate concerns. Lastly, dismissing the internet as an unreliable source of information without acknowledging the patient's misgivings may undermine trust.

**References**

Pearson GJ, Thanassoulis G, Anderson TJ, et al. *2021 Canadian Cardiovascular Society guidelines for the management of dyslipidemia for the prevention of cardiovascular disease in adults*. Canadian Journal of Cardiology. 2021;37(8):1129–1150.

Canadian Cardiovascular Society. *CCS dyslipidemia guidelines and resources*. Accessed March 21, 2025.

Gladsone D, Poppe A; Heart and Stroke Foundation. *Canadian stroke best practice recommendations – Secondary prevention of stroke seventh edition*, 2020.

---

41. Which one of the following is the best next step?

    **A. Discuss the risks of cardiac screening**
    **B.** Check the patient's lipid profile
    **C.** Order a treadmill stress test
    **D.** Initiate acetylsalicylic acid
    **E.** Prescribe lorazepam

**Rationale**

Given the patient's age and lack of symptoms such as chest pain, shortness of breath, or palpitations, the best approach is to discuss the risks of cardiac screening rather than proceeding with unnecessary tests or treatments. Cardiac screening in asymptomatic individuals, especially in older patients (≥ 65 years), can lead to false positives, unnecessary anxiety, and potentially harmful interventions. Checking her lipid profile or ordering a treadmill stress test would be more appropriate if she had risk factors or symptoms suggestive of coronary artery disease. Initiating medications without a clear indication could expose the patient to unnecessary medication risks, such as bleeding with acetylsalicylic acid and sedation with lorazepam. The focus should be on educating the patient about the potential risks and benefits of cardiac screening, addressing her concerns, and reassuring her given her current symptom-free status and the normal findings of the physical examination.

**Reference**

Bhatia RS, Pendrith C, Ross H; Canadian Cardiovascular Society Choosing Wisely Canada

Committee. *Cardiac testing in an asymptomatic 42-year-old man*. CMAJ : Canadian Medical Association journal / journal de l'Association medicale canadienne. 2015;187(10):747–749.

---

42. Which one of the following is the best next step?

    **A. Complete the forms provided by the patient.**
    **B.** Tell the patient you do not treat workers' compensation cases.
    **C.** Explain that a nurse cannot determine if asthma is work-related.
    **D.** Inform the patient that the claim will be rejected.

**Rationale**

Physicians often receive requests from their patients for medical forms or letters and have an ethical and legal obligation to provide a timely, factual account of a patient's health status. Filling out the necessary forms and explaining the process demonstrates a supportive and professional response to the patient's concerns, acknowledging her right to pursue a claim if she believes her condition is linked to her workplace. It is not the physician's role to determine the validity of the claim at this stage, but rather to provide the necessary documentation and guidance. Telling her that you do not treat workers' compensation cases, or that a nurse cannot determine if her asthma is work-related, dismisses her concerns and undermines her autonomy in seeking a resolution. Additionally, stating that the claim will be rejected is unprofessional and dismissive, potentially damaging the patient-physician relationship. The physician's role is to support the patient in navigating the health care system, including potential work-related health issues, and to provide the necessary medical documentation to facilitate her claim.

**Reference**

Canadian Medical Protective Association. *Good practices: Medical letters, forms, and reports*. Published May 2022.

---

43. Which one of the following factors is the biggest predictor of success for this intervention?

    **A.** The quality of the educational materials provided.
    **B.** Ease of access to appointments at your clinic.
    **C.** Whether the patient has a drug insurance plan.
    **D.** **The patient's level of health literacy.**

**Rationale**

Many older people (≥ 65 years) in Canada are not health literate. As a result, they struggle to access, understand, evaluate, and communicate health information, resulting in poorer health outcomes. In caring for a patient with type 2 diabetes, especially when focusing on lifestyle modifications such as diet and exercise, understanding the patient's level of health literacy is crucial. While the quality of educational materials is important, how well the patient understands the material is more important. Difficulty getting an appointment at the clinic is more related to access to care rather than the patient's comprehension of care instructions. A drug insurance plan is relevant for medication affordability but not immediately pertinent when the focus is on nonpharmacologic interventions.

**References**

Diabetes Canada. *Engaging the diabetes community*.

Rootman I, Gordon-El-Bihbety D; Canadian Public Health Association. *A vision for a health literate Canada: Report of the expert panel on health literacy*. 2008.

44. Before referring the patient to a dentist, which one of the following is the best next step?

**A. Rinse the tooth and reinsert it into the socket.**

B. Administer prophylactic antibiotics.

C. Keep the avulsed tooth in a chlorhexidine solution.

D. Pack the socket with gauze.

**Rationale**

The immediate priority is to preserve the vitality of the periodontal ligament cells on the root surface of the avulsed tooth. Rinsing the tooth and reinserting it into the socket as soon as possible is crucial because it increases the likelihood of successful reimplantation and long-term retention of the tooth. This action helps maintain the viability of the cells necessary for the tooth to reattach to the bone. Administering prophylactic antibiotics is not the immediate priority and is typically considered after reimplantation to prevent infection. Keeping the avulsed tooth in a chlorhexidine solution is not recommended as it can damage the periodontal ligament cells, reducing the chances of successful reimplantation. Packing the socket with gauze does not address the need to preserve the periodontal ligament cells and can lead to clot formation, which may hinder reimplantation.

**References**

Keels MA. *Management of dental trauma in a primary care setting*. Pediatrics. 2014;133(2):e466–e476.

Khan M, Sharma M. *Comparison of efficacy of different storage media for an avulsed tooth*. International Journal of Applied Dental Sciences. 2020;6(3):528–531.

45. After definitive surgical treatment, which one of the following should be disclosed to the patient?

A. Spontaneous bowel perforation is common after laparoscopic surgery.

B. The perforation was a result of poor surgical technique.

C. How the abscess developed is uncertain.

**D. The bowel injury was most likely iatrogenic.**

**Rationale**

The correct answer is that the bowel injury was most likely iatrogenic. It is important to acknowledge that injuries can occur as a complication of surgical procedures, particularly laparoscopic ones, due to the proximity of surgical instruments to the bowel. Spontaneous bowel perforations are rare and not typically associated with laparoscopic procedures. Perforation due to poor surgical technique is speculative and lacks evidence, as surgical complications can occur even with skilled technique. Stating that how the abscess developed is uncertain ignores the clear link between bowel perforation and subsequent abscess formation.

**Reference**

Canadian Medical Protective Association. *Disclosure of patient safety incidents*. Published April 2021.

46. Which one of the following counselling interventions is most important for this patient?

**A. Determine her willingness to avoid playing rugby for 4 weeks.**
B. Advise her to avoid hugging people and shaking their hands for 4 to 6 weeks.
C. Emphasize the importance of disclosing her illness to recent intimate partners.
D. Recommend a medical leave from her studies for the semester.
E. Tell her to monitor for dark urine and yellow sclera.

**Rationale**

The most critical counselling intervention is to determine this patient's willingness to avoid playing rugby for 4 weeks. Mononucleosis can lead to splenomegaly, and engaging in contact sports like rugby increases the risk of splenic rupture, a potentially life-threatening complication. While advising her to avoid hugging people and shaking their hands for 4 to 6 weeks could help prevent the spread of the Epstein-Barr virus, it does not address the immediate physical health risks associated with her condition. Emphasizing the importance of disclosing her illness to recent intimate partners is relevant for preventing transmission but is secondary to her personal health risks. Recommending a medical leave from her studies for the semester is excessive, as most individuals with mononucleosis can continue their academic responsibilities with appropriate rest and care. Monitoring for dark urine and yellow sclera is more pertinent to liver complications, which are not the primary concern in this scenario.

**Reference**

Sylvester JE, Buchanan BK, Paradise SL, Yauger JJ, Beutler AI. *Association of splenic rupture and infectious mononucleosis: A retrospective analysis and review of return-to-play recommendations*. Sports Health. 2019;11(6):543–549.

47. Which one of the following is the best next step?

**A. Report your suspicion of adult physical abuse to the appropriate authority.**
B. Encourage the patient to choose an alternative living situation.
C. Perform a Montreal Cognitive Assessment (MoCA) on the patient.
D. Arrange for the patient to be moved to an assisted-living facility.

**Rationale**

The primary concern is the safety and well-being of the patient. The patient's repeated episodes of wandering outside at night without appropriate clothing, coupled with signs of malnutrition and poor dental hygiene, suggest neglect. The son's dismissive attitude towards these incidents raises suspicion of adult physical abuse or neglect. Reporting the suspicion of adult physical abuse to the appropriate authority is crucial to ensure the patient's safety and to initiate a proper investigation into his living conditions. Encouraging the patient to choose an alternative living situation is not feasible given his cognitive impairment, and performing a Montreal Cognitive Assessment (MoCA) does not address the immediate safety concerns. Arranging for the patient to be moved to an assisted-living facility might be a future consideration, but it requires a formal assessment and legal processes, especially if the son is the legal guardian.

**References**

Wang XM, Brisbin S, Loo T, Straus S. *Elder abuse: An approach to identification, assessment and intervention*. CMAJ : Canadian Medical Association Journal = journal de l'Association medicale canadienne. 2015;187(8):575–581.

National Initiative for the Care of the Elderly. *Responding to elder abuse and neglect: Factsheet for doctors*. August 31, 2010.

---

48. Which one of the following is the best next step?

    **A.** Explain that screening is unnecessary, as the quit date is more than 10 years ago.
    **B.** Suggest annual screening with magnetic resonance imaging.
    **C.** **Discuss annual low-dose computed tomography.**
    **D.** Advise radiography and sputum cytology every 6 months.

**Rationale**

The most effective screening method for lung cancer in high-risk patients, such as in this vignette, is annual low-dose computed tomography. This method has been shown to reduce mortality from lung cancer by detecting it at an earlier, more treatable stage. The Canadian Task Force on Preventive Health Care: Lung Cancer Screening Guideline recommends screening for adults who meet the following criteria: they are between 55 and 74 years old, have at least a 30 pack-year smoking history, and currently smoke or quit less than 15 years ago. For these patients, annual screening with low-dose computed tomography for up to 3 consecutive years is advised. Explaining that screening is unnecessary because the patient quit smoking more than 10 years ago is incorrect, as the risk of lung cancer remains significant for many years after cessation. Magnetic resonance imaging can be used to screen for lung cancer, but it is not currently the primary imaging method for lung cancer screening. Radiography and sputum cytology are also not recommended due to their lower sensitivity and specificity compared to low-dose computed tomography.

**References**

Canadian Task Force on Preventive Health Care. *New lung cancer screening guideline*. Published March 7, 2016.

Canadian Cancer Society. *How do I find a lung cancer screening program?*

---

49. Which one of the following is the most appropriate next step?

    **A.** Ensure a health care professional is always present in the patient's room.
    **B.** Contact the patient's husband to obtain additional history.
    **C.** **Give the patient the opportunity to hold her baby in her arms.**
    **D.** Send the fetus to pathology immediately for an autopsy.
    **E.** Call the police to report the assault.

**Rationale**

Giving the patient the opportunity to hold her baby in her arms is crucial for the grieving process, allowing her to acknowledge the loss and begin the process of emotional healing. It respects her autonomy and provides space for her to honour her child in her own way, which is essential in such traumatic circumstances. Ensuring a health care professional is always present in the patient's room, while supportive, does not directly address the immediate emotional needs of the mother. Contacting the patient's husband to obtain additional history is inappropriate given the context of intimate partner violence and could further endanger the patient. Sending the fetus to pathology immediately for an autopsy, although medically relevant, overlooks the mother's immediate emotional needs and the importance of her having a moment with her child. Calling the police to report the assault may be a necessary legal step but does not address the immediate emotional and psychological needs of the mother in the aftermath of her loss. The focus should be on providing compassionate care and support to the mother during this critical time.

**Reference**

Metz TD, Berry RS, Fretts RC, et al. *Obstetric care consensus no. 10: Management of stillbirth: Correction*. Obstetrics & Gynecology. 2023;141(5):1030.

---

50. In the assessment of this case, which one of the following is the most appropriate next step?

    **A. Evaluate the timing of the patient's sexual intercourse.**
    **B.** Assess the upper urinary tract with computed tomography urography.
    **C.** Arrange for a consultation in urology with cystoscopy.
    **D.** Do not pursue any further investigation.
    **E.** Recommend pelvic ultrasonography.

**Rationale**

This patient presents with symptoms suggestive of a urinary tract infection (UTI). Sexual activity is a common precipitating factor for UTIs in young women. Given her age and the recurrence of UTIs, understanding the timing of the patient's sexual activity in relation to symptom onset can guide preventive strategies and management, such as prophylactic antibiotics. Assessing the upper urinary tract with computed tomography urography or recommending pelvic ultrasonography is not immediately necessary, as these are more appropriate for complicated or atypical cases. Arranging for a consultation in urology with cystoscopy is overly invasive for a straightforward case of recurrent UTIs in a young and otherwise healthy patient. Lastly, choosing not to pursue any further investigation ignores the recurrent nature of the patient's symptoms, which warrants further investigations with urine analysis and culture.

**References**

Epp A, Larochelle A, et al. *No. 250—Recurrent urinary tract infection*. Journal of Obstetrics and Gynaecology Canada. 2017;39(10):e422–e431.

Aggarwal N, Leslie SW. *Recurrent urinary tract infections*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; Updated January 20, 2025.

51. Which one of the following would be most helpful in predicting the most likely prognosis?

**A.** Complete blood count
**B.** Immunoglobulin E (IgE) level
**C.** Abdominal ultrasonography
**D.** **Urinalysis**

**Rationale**

The most critical factor in predicting prognosis is the involvement of the kidneys, which can be assessed through urinalysis. Monitoring for hematuria or proteinuria through urinalysis is essential, as renal complications can significantly impact long-term outcomes. A complete blood count might help in assessing overall health but does not specifically predict renal involvement. The immunoglobulin E (IgE) level is more relevant to allergic conditions rather than vasculitis. Abdominal ultrasonography could identify gastrointestinal complications but is not as predictive of long-term prognosis as renal assessment.

**Reference**

Stone HK, Mitsnefes M, Dickinson K, et al. *Clinical course and management of children with IgA vasculitis with nephritis*. Pediatric Nephrology. 2023;38:3721–3733.

52. Which one of the following is the best next step?

**A.** **Assess the concern to decide if any tests are medically indicated.**
**B.** Order the full list of tests because the naturopath is in the circle of care.
**C.** Order some tests to help the patient financially and maintain a positive relationship.
**D.** Explain that you cannot interfere with the care plan of another doctor.

**Rationale**

The best next step is to assess the patient's concerns and decide what tests may be medically indicated. This approach ensures that the patient's care is based on clinical evidence and medical necessity, rather than external recommendations that may not align with established medical guidelines. Ordering the full list of tests simply because a naturopathic doctor is in the circle of care does not prioritize the physician's responsibility to provide evidence-based medical care. Similarly, ordering some tests to maintain a positive relationship with the patient or to prevent her from incurring costs compromises the integrity of medical decision-making and could lead to unnecessary testing, which may not benefit the patient's health. If any or all of the tests on the list are medically necessary, it would not be interfering in the care provided by the naturopathic doctor to order the tests. The physician's primary obligation is to the patient's well-being, which involves making informed decisions about which tests are truly necessary based on the patient's current health status and medical history. This ensures that the patient receives appropriate care without subjecting her to unnecessary procedures or financial burden.

**References**

Canadian Medical Association. *CMA code of ethics and professionalism*. December 8, 2018.

Canadian Medical Protective Association. *Clinical decision-making – Understanding decision-making to improve diagnostic accuracy*. Published March 2021. Revised December 2022.

---

53. Which one of the following is the best next step?

    **A. Levothyroxine therapy**
    **B.** Thyroid nuclear scan
    **C.** Iron storage study
    **D.** Pelvic ultrasonography
    **E.** Endometrial biopsy

**Rationale**

This patient presents with symptoms and laboratory results indicative of hypothyroidism.

Addressing the underlying thyroid dysfunction is the priority, which will likely improve the menstrual irregularities. The best next is to initiate levothyroxine therapy, which is the standard treatment for hypothyroidism. The aim of this therapy is to normalize thyroid hormone levels and alleviate symptoms. A thyroid nuclear scan is not necessary as the diagnosis of hypothyroidism is already established through laboratory results. An iron storage study is not immediately relevant, although the low ferritin level suggests iron deficiency anemia, which can be addressed after thyroid function is stabilized. Pelvic ultrasonography and endometrial biopsy are not indicated at this stage, as the heavy menses is likely a result of the hypothyroid state rather than a primary gynecologic issue.

**References**

Shushan A. *Chapter 39: Complications of Menstruation & Abnormal Uterine Bleeding*. In: DeCherney AH, Nathan L, Laufer N, Roman AS. eds. CURRENT Diagnosis & Treatment: Obstetrics & Gynecology. 12th ed. New York (NY): McGraw-Hill Education; 2019. Accessed February 27, 2025.

Davis E, Sparzak PB. *Abnormal uterine bleeding*. In: StatPearls. Treasure Island (FL): StatPearls Publishing; January 21, 2025.

---

54. Which one of the following is the best next step?

    **A.** Administer intravenous diazepam.
    **B.** Give intrarectal lorazepam.
    **C. Start magnesium sulfate intravenously.**
    **D.** Load with phenytoin intravenously.
    **E.** Begin hydralazine infusion.

**Rationale**

The key concern here is the management of a seizure in a pregnant woman, which raises the suspicion of eclampsia, a condition characterized by seizures in the context of preeclampsia. The best next step is the administration of magnesium sulfate intravenously, as it is the treatment of

choice to prevent further seizures and manage eclamptic episodes. Intravenous diazepam and intrarectal lorazepam are not first-line treatments for eclampsia and are typically used for other types of seizures. Phenytoin is not effective for eclamptic seizures and is not recommended. Hydralazine infusion is used to manage hypertension but does not address the immediate need to control seizures in eclampsia.

**References**

Magee LA, Smith GN, Bloch C, et al. *Guideline No. 426: Hypertensive disorders of pregnancy: Diagnosis, prediction, prevention, and management*. Journal of Obstetrics and Gynaecology Canada. 2022;44(5):547–571.e1.

Girard P, Quirion A, Bureau Y-A, Sauvé N. *Magnesium sulfate for eclampsia prevention: Quality of care evaluation in a tertiary centre in Québec, Canada*. Obstetric Medicine. 2014;7(2):71–76.

---

55. Which one of the following is the most appropriate treatment?

    **A.** Increase the diuretic dose.

    **B. Perform a parathyroidectomy.**

    **C.** Add a second antihypertensive medication.

    **D.** Augment the vitamin D supplement dosage.

**Rationale**

This patient's symptoms and laboratory findings of elevated parathyroid hormone (PTH) and hypercalcemia suggest primary hyperparathyroidism, which is often treated with parathyroidectomy. Increasing the diuretic dose is inappropriate as it may worsen hypokalemia and does not address the underlying hyperparathyroidism. Adding a second antihypertensive medication might control blood pressure but does not address the cause of hypercalcemia and elevated PTH. Augmenting the vitamin D dosage is unnecessary and could exacerbate hypercalcemia.

**Reference**

Williams BA, Trites JR, Taylor SM, Bullock MJ, Hart RD. *Surgical management of primary hyperparathyroidism in Canada*. Journal of Otolaryngology – Head & Neck Surgery. 2014;43(1):44.