Board Review: Day 3

Moderator: David Aronoff, MD

Faculty: Drs. Boucher, Dhanireddy, Dorman, Ghanem, and Klompas

7/28/2026

BOARD REVIEW DAY 3

#31 A 58-year-old man with a history of alcohol use disorder presents to the emergency department with fever, hypotension, and diffuse purpura fulminans involving both lower extremities.

His partner reports that three days ago he was bitten on his forearm by his neighbor's German shepherd while trying to separate the dogs during a fight. The bite wound was cleaned and bandaged at an urgent care clinic and was not sutured.

On examination, he is febrile (40.1°C), hypotensive (BP 82/48 mm Hg), and tachycardic.

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BOARD REVIEW DAY 3

#31 The bite wound on his forearm appears only mildly erythematous, but his lower legs and feet have extensive dark purple, nonblanching lesions.

Laboratory testing reveals thrombocytopenia (platelets 28,000/μL), elevated INR and PTT, and elevated D-dimer consistent with disseminated intravascular coagulation (DIC).

Blood cultures are pending. He is started on broad-spectrum empiric antibiotics.

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BOARD REVIEW DAY 3

#31 Which of the following organisms is most likely to be identified on blood culture?

A. *Pasteurella multocida*
B. *Streptococcus canis*
C. *Capnocytophaga canimorsus*
D. *Clostridium perfringens*
E. *Neisseria meningitidis*

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BOARD REVIEW DAY 3

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C. *Capnocytophaga canimorsus***
D. *Clostridium perfringens*
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BOARD REVIEW DAY 3

#32 A 58-year-old man with poorly controlled type 2 diabetes mellitus is admitted for fever.

He was most recently admitted 6 weeks ago for hyperosmolar coma.

That hospitalization was complicated by a central-line associated MRSA bacteremia for which he was treated with vancomycin for 14 days.

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BOARD REVIEW DAY 3

#32 Two of two blood cultures obtained at this admission are again positive for MRSA with the following MIC results:

- Linezolid 2 mg/ml (susceptible)
- Vancomycin 4 mg/ml (intermediate)
- Daptomycin 2 mg/ml (non-susceptible)
- Ceftaroline 1mg/ml (susceptible)
- Ceftobiprole 2 mg/ml (susceptible)
- Rifampin 0.25 mg/ml (susceptible)
- Gentamicin 1 mcg/ml (no breakpoint established)

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BOARD REVIEW DAY 3

#32 Which antibiotic regimen would you recommend for this patient?

A. Linezolid
B. Vancomycin + rifampin
C. Daptomycin + gentamicin
D. Ceftobiprole

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BOARD REVIEW DAY 3

#32 Which antibiotic regimen would you recommend for this patient?

A. Linezolid
B. Vancomycin + rifampin
C. Daptomycin + gentamicin
D. Ceftobiprole**

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BOARD REVIEW DAY 3

#33 A 35-year-old agricultural consultant in good health is returning to India for 3 months where she will inspect crops in rural areas.

There is known to be Japanese encephalitis in the area.

Three years ago, when she had visited the same area, she was vaccinated for Japanese B encephalitis with the standard two dose regimen.

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BOARD REVIEW DAY 3

#33 What advice should you give her for protection against Japanese B encephalitis?

A. Immunization is ineffective and therefore no immunization was needed 3 years ago or is needed now
B. Immunization is associated with a substantial risk for encephalitis and therefore should not be given
C. Since she was immunized three years ago, she should receive a booster dose
D. She should receive a booster only if titers demonstrate no measurable IgG antibodies against JE

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BOARD REVIEW DAY 3

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BOARD REVIEW DAY 3

#34 A 40-year-old HIV-uninfected male returns from a State Department assignment in India where he was well other than occasional episodes of self-limited diarrhea.

PPD was negative when he departed.

PPD is positive upon return, with 20 mm of induration. He has no symptoms; a chest radiograph is normal.

Baseline laboratory values, including liver function tests, are normal.

He has been vaccinated for HBV and HAV and is HCV seronegative.

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BOARD REVIEW DAY 3

#34 He is started on a regimen of isoniazid 300 mg plus pyridoxine 25 mg per day since his physician is more comfortable with that regimen than newer, CDC recommended regimens.

He returns after 4 weeks of taking isoniazid and pyridoxine. He is asymptomatic and reports taking his drugs daily and missing very few doses.

Upon routine lab testing his ALT is 65 IU/L (ULN=33) and his AST is 90 units (ULN=48 IU/L). Total bilirubin is 0.6 mg/dl.

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BOARD REVIEW DAY 3

#34 What is the best option for management at this point?

A. Continue the current regimen with the patient told to report any symptoms immediately and recheck enzymes in 2-4 weeks
B. Continue the current regimen but measure the patient's acetylation rate to determine safety of continuation
C. Double the dose of pyridoxine
D. Perform an interferon-gamma release assay (IGRA) to determine if prophylaxis is really needed
E. Abandon plan to treatment of latent tuberculosis infection (LTBI); monitor the patient closely for symptoms and obtain a chest x-ray every 6 months for 3 years

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BOARD REVIEW DAY 3

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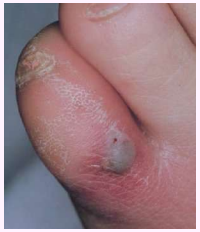
BOARD REVIEW DAY 3

#35 A 38-year-old marine sergeant reports to sick bay a week after shore leave with acute onset of fever, malaise and five pustular skin lesions, including the one shown here.

He appears acutely ill, but his vital signs (other than temperature) are normal.

He has pain on flexion and slight swelling in the right wrist; his wrist flexor tendons are quite tender. His left ankle was tender the day before but is now asymptomatic.



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BOARD REVIEW DAY 3

#35 While on shore leave in a port city in Mexico, he had sex with a commercial sex worker, consumed alcohol and passed out in an alley infested with rats and mice.

On hospital day 3 the lab reports a positive blood culture.

Which of the following would be the most likely organism?

A. Spirochete
B. Gram negative bacillus
C. Gram negative coccus
D. Gram positive bacillus
E. Endemic mycosis

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BOARD REVIEW DAY 3

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BOARD REVIEW DAY 3

#36 A 69-year-old woman requires a hip replacement after fracturing her greater trochanter.

She has a history of recurrent urinary tract infections typically treated with nitrofurantoin or fosfomycin, but is otherwise healthy.

To reduce the likelihood of an infection involving her surgical site, what antibiotics do you recommend for preoperative prophylaxis?

A. Cefazolin
B. Vancomycin
C. Vancomycin plus cefazolin
D. Ceftriaxone
E. Cefepime

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BOARD REVIEW DAY 3

#36 A 69-year-old woman requires a hip replacement after fracturing her greater trochanter.

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B. Vancomycin
C. Vancomycin plus cefazolin
D. Ceftriaxone
E. Cefepime

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BOARD REVIEW DAY 3

#37 A 34-year-old woman presents to her physician with a 10-day history of nonproductive cough, fever, headache, and myalgias. She has no history of recent travel, and has been otherwise healthy.

She works as a clerk at a pet supply store. Two weeks ago, she began helping to care for a recently purchased flock of parakeets after a previous employee became ill with a similar respiratory illness.

On examination, her temperature is 39.1°C, heart rate is 72 beats per minute, and she has diffuse crackles on auscultation.

A chest X-ray reveals patchy bilateral infiltrates. Routine sputum cultures are negative.

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BOARD REVIEW DAY 3

#37 A 34-year-old woman presents to her physician with a 10-day history of nonproductive cough, fever, headache, and myalgias. She has no history of recent travel, and has been otherwise healthy.

She works as a clerk at a pet supply store. Two weeks ago, she began helping to care for a recently purchased flock of parakeets after a previous employee became ill with a similar respiratory illness.

On examination, her temperature is 39.1°C, heart rate is 72 beats per minute, and she has diffuse crackles on auscultation.

A chest X-ray reveals patchy bilateral infiltrates. Routine sputum cultures are negative.

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BOARD REVIEW DAY 3

#37 Which of the following is the most likely diagnosis?

A. Legionnaires disease
B. *Mycoplasma pneumoniae*
C. Psittacosis
D. Q fever
E. Influenza

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BOARD REVIEW DAY 3

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A. Legionnaires disease
B. *Mycoplasma pneumoniae*
C. Psittacosis**
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BOARD REVIEW DAY 3

#38 A 57-year-old man presents with 1 week of fever, chills, and low back pain.

A transesophageal echocardiogram shows a 6 mm mobile mass on the mitral valve. MRI of the spine shows evidence of discitis between the 3rd and 4th lumbar vertebrae.

Admission blood cultures are positive for *Staphylococcus aureus* resistant only to penicillin.

He is treated with nafcillin 2 gm IV every 4 hours with resolution of fever but little change in back pain.

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BOARD REVIEW DAY 3

#38 Follow-up blood cultures from hospital days 4 and 5 are negative.

The white blood cell count is 18,000/mm^3 with 90% neutrophils on admission; on hospital day 20, the white blood cell count is 3,000/mm^3 with 30% neutrophils.

Renal function is normal.

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BOARD REVIEW DAY 3

#38 Which of the following options is most appropriate for this patient?

A. Cefazolin 2 gm IV every 8 hours
B. Ceftriaxone 2 gm IV every 12 hours
C. Linezolid 600 mg IV every 12 hours
D. Nafcillin 1 gm IV every 4 hours
E. Vancomycin 1 gm IV every 12 hours

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BOARD REVIEW DAY 3

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BOARD REVIEW DAY 3

#39 A 70-year-old woman in good health had an episode of zoster 20 years ago which was diagnosed clinically and resolved uneventfully with acyclovir treatment.

When she went to a new internist 15 years ago, that internist recommended Zostavax-- Zoster Vaccine Live (ZVL) -- which the patient received.

She now wants to know if she should receive Shingrix (recombinant zoster vaccine-RZV)). She remains in good health.

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BOARD REVIEW DAY 3

#39 What would you advise her?

A. Since she had a clinical case of zoster, she did not need Zostavax 15 years ago and does not need Shingrix (recombinant zoster vaccine) now
B. Since she had Zostavax, she does not need Shingrix
C. She should only get Shingrix if her IgG titers against zoster are below the level of detection
D. She should receive Shingrix (recombinant zoster vaccine)

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BOARD REVIEW DAY 3

#39 What would you advise her?

A. Since she had a clinical case of zoster, she did not need Zostavax 15 years ago and does not need Shingrix (recombinant zoster vaccine) now
B. Since she had Zostavax, she does not need Shingrix
C. She should only get Shingrix if her IgG titers against zoster are below the level of detection
D. She should receive Shingrix (recombinant zoster vaccine)**

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BOARD REVIEW DAY 3

#40 You are treating a 66-year-old man for pulmonary disease due to *Mycobacterium abscessus* complex that is resistant to macrolides.

He completed 8 weeks of IV imipenem, IV amikacin, and oral omadacycline and one week ago he was transitioned to oral omadacycline, oral linezolid, and inhaled amikacin.

He also has COPD, hypertension, and depression, and takes an inhaled combination beta agonist and muscarinic antagonist, lisinopril, and sertraline.

BOARD REVIEW DAY 3

#40 This morning his wife called reporting that over the past few days he has had increasing agitation, and this morning is confused, with fever, sweating, loose stools, and tremors.

On exam in the emergency department, he is agitated; his temperature is 101°F, pulse 110/minute and regular, there is marked diaphoresis, and there is muscle clonus in the lower extremities.

Lab testing shows normal WBC and creatinine.

BOARD REVIEW DAY 3

#40 Which of the following best explains this situation?

A. *Clostridioides difficile* colitis
B. Monoamine oxidase inhibition by linezolid
C. Sertraline-mediated inhibition of linezolid metabolism
D. Side effect of inhaled liposomal amikacin

BOARD REVIEW DAY 3

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BOARD REVIEW DAY 3

#41 A 17-year-old adolescent cis-gender woman presented for care because of a ten-day history of increasing abdominal pain, accompanied by low grade fever the past two days.

The pain was mostly in the right upper quadrant, worse on deep breathing. On deep inspiration, the pain was felt in her right shoulder. She also reported abnormal yellow vaginal discharge. Her menses have been normal. No dysuria was reported.

She reported condomless vaginal intercourse with a several male partners.

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BOARD REVIEW DAY 3

#41 On exam, her vital signs were normal except for a temperature of 38.5°C.

She had marked tenderness in the right upper quadrant and some dull tenderness over the lower abdomen bilaterally.

Her WBC was 11,800/mm^3 with normal liver chemistries. Abdominal ultrasound showed no evidence of cholecystitis or liver abscess.

A urine pregnancy test was negative.

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BOARD REVIEW DAY 3

#41 Which test is most likely to establish the correct diagnosis?

A. CT of abdomen and pelvis with oral and IV contrast
B. Laparoscopy
C. Cervical NAAT for herpes simplex virus
D. Liver biopsy
E. Cervical NAAT for *Chlamydia trachomatis*

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BOARD REVIEW DAY 3

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#42 A 68-year-old man with a history of schizophrenia presents to the emergency department with paranoid delusions. He is currently undomiciled and has not been taking his antipsychotics.

He says that he feels like he has tiny worms crawling all over him that are making his skin dry and flaky.

Exam is notable for a cachectic, disheveled man in dirty clothing. He has thick hyperkeratotic plaques and warty skin crusts in a patchy distribution over the entire body which are particularly pronounced on the hands, feet, and elbows.

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BOARD REVIEW DAY 3

#42 Which of the following care providers require post-exposure prophylaxis?

A. The psychiatrist who interviewed him for 120 minutes while sitting in a chair next to his bed in a regular hospital room
B. The patient who was in an adjacent bed in the same room for 14 hours
C. The intern not wearing PPE who did a complete physical exam
D. The nurse in gown & gloves but no mask who helped him into a hospital gown
E. The registration clerk whose pen he used to sign his admission paperwork

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BOARD REVIEW DAY 3

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BOARD REVIEW DAY 3

#43 A 22-year-old patient with HIV infection (CD4 count 350 cells/ μL, viral load <50 copies/ml on dolutegravir/lamivudine) lives with his parents in an apartment.

His mother, who works as a correctional officer, is healthy but was recently diagnosed with pulmonary tuberculosis when she developed a cough, radiologic evidence consistent with tuberculosis, and has a sputum that was smear positive and NAAT (Cepheid Xpert MTB/Rif) positive for rifampin-susceptible *Mycobacterium tuberculosis*.

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#43 The patient has no symptoms consistent with TB and has an unremarkable physical examination.

Laboratory results are consistent with prior visits. Chest x-ray is normal.

The patient had a negative PPD in clinic 2 years ago when he was first evaluated for HIV infection.

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#43 What would you recommend for this patient?

A. Withhold decision until results of repeat PPD or IGRA are available from current clinic visit
B. Withhold decision until results of chest CT and PPD or IGRA are available from current clinic visit
C. If initial PPD and IGRA are negative, repeat PPD or IGRA at 3, 6 and 12 months and initiate treatment only if PPD or IGRA are positive
D. Initiate treatment for latent TB regardless of PPD or IGRA result

BOARD REVIEW DAY 3

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D. Initiate treatment for latent TB regardless of PPD or IGRA result**

BOARD REVIEW DAY 3

#44 A 28-year-old woman presents with her fourth episode of symptomatic bacterial vaginosis (BV) within the past year.

She is in a mutually monogamous relationship with her male partner.

She has previously responded to standard BV therapy but experiences frequent recurrences.

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#44 In addition to standard treatment with metronidazole in this patient, what additional intervention may be considered in her male partner?

A. No treatment for the male partner; advise condom use only
B. Single 2 g dose of oral metronidazole for the male partner
C. Oral metronidazole 500 mg twice daily for 7 days plus 2% topical clindamycin cream applied to the penile glans/coronal sulcus twice daily for 7 days
D. Topical metronidazole gel applied to the penis once daily for 5 days
E. Doxycycline 100 mg twice daily for 7 days

BOARD REVIEW DAY 3

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BOARD REVIEW DAY 3

#45 A previously unvaccinated immigrant from Bangladesh was seen in the emergency department for pharyngitis two days after arrival in the United States.

The patient required an emergency tracheostomy and while the differential diagnosis was extensive, the patient received broad spectrum antibiotics plus steroids.

The patient was found to have an oropharyngeal culture positive for *Corynebacterium diphtheriae*, presumably acquired in Bangladesh.

BOARD REVIEW DAY 3

#45 The patient was treated appropriately with penicillin and horse origin antitoxin obtained from CDC.

The emergency department team that had close contact with the patient during examination and tracheostomy inquires about prophylaxis, although they have all been immunized.

BOARD REVIEW DAY 3

#45 What should you recommend?

A. A single dose of intramuscular benzathine penicillin G or a 7- to 10-day course of oral erythromycin; if last dose of toxoid was ≥5 years ago add a single dose of diphtheria toxoid

B. Single dose of ciprofloxacin plus a single dose of diphtheria toxoid if last dose of toxoid was 5 or more years ago

C. Four doses of rifampin plus a single dose of diphtheria toxoid if last dose was 5 or more years ago

D. No therapy unless the healthcare worker's oropharyngeal culture is positive

E. No therapy regardless of culture since they have been vaccinated

BOARD REVIEW DAY 3

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