

# QP2 Question Preview: Day 2

Moderator: Henry Masur, MD

IDBR

## INFECTIOUS DISEASE BOARD REVIEW

AUGUST 17-21, 2024

### Daily Question Preview: Day 2

Moderator: Henry Masur, MD

8/19/2024

PREVIEW QUESTION
IDBR  
INFECTIOUS DISEASE BOARD REVIEW
2024

**2.1**

- 21-year-old female
- Renal transplant secondary to focal segmental glomerulosclerosis
- Dysuria, fevers, rigors, and hypotension
- Urine and blood cultures growing *Escherichia coli*
- ICU to initiate vasopressors
- Susceptibilities shown on the next slide (note report in yellow)

1 of 4

PREVIEW QUESTION
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INFECTIOUS DISEASE BOARD REVIEW
2024

**2.1**

Antibiotic	MIC	Interpretation
Amikacin	>8 µg/mL	S
Aztreonam	16 µg/mL	R
Cefazolin	>16 µg/mL	R
Cefotetan	2 µg/mL	S
Cefepime	4 µg/mL	R
Ceftazidime	>16 µg/mL	R
Ceftriaxone	32 µg/mL	R
Ciprofloxacin	1 µg/mL	R
Ertapenem	0.5 µg/mL	S
Gentamicin	2 µg/mL	R
Meropenem	0.5 µg/mL	S
Piperacillin/tazobactam	8/4 µg/mL	S
Tobramycin	2 µg/mL	S
Trimethoprim/sulfamethoxazole	0.5/4 µg/mL	S

2 of 4

PREVIEW QUESTION
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2024

**2.1** Which one of the following antibiotics represents the most appropriate initial treatment?

A) Cefepime  
 B) Trimethoprim-sulfamethoxazole  
 C) Meropenem  
 D) Piperacillin-tazobactam

3 of 4

PREVIEW QUESTION
IDBR  
INFECTIOUS DISEASE BOARD REVIEW
2024

**2.1** Which one of the following antibiotics represents the most appropriate initial treatment?

A) Cefepime  
 B) Trimethoprim-sulfamethoxazole  
**C) Meropenem\*\*\***  
 D) Piperacillin-tazobactam

4 of 4

PREVIEW QUESTION
IDBR  
INFECTIOUS DISEASE BOARD REVIEW
2024

**2.2**

- 24-year-old male with acute myelogenous leukemia
  - Absolute neutrophil count = 0 cells/mL
- Acute onset fevers and respiratory distress
- Multifocal pneumonia
- *P. aeruginosa* recovered from bronchoalveolar lavage fluid
- Susceptibilities on next slide

1 of 4

# QP2 Question Preview: Day 2

Moderator: Henry Masur, MD

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.2**

Antibiotic	MIC	Interpretation
Amikacin	> 8 µg/mL	R
Aztreonam	> 16 µg/mL	R
Cefepime	> 16 µg/mL	R
Ceftazidime	> 16 µg/mL	R
Ciprofloxacin	> 2 µg/mL	R
<b>Colistin</b>	<b>2 µg/mL</b>	<b>I</b>
Gentamicin	> 8 µg/mL	R
Meropenem	16 µg/mL	R
Piperacillin/tazobactam	> 64/4 µg/mL	R
Tobramycin	> 8 µg/mL	R

*Pseudomonas aeruginosa* with "difficult-to-treat resistance" = resistance to all traditional beta-lactam and fluoroquinolone agents

2 of 4

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.2** Which one of the following antibiotics is least likely to be effective against DTR-*P. aeruginosa* infections?

A) Ceftolozane-tazobactam  
B) Ceftazidime-avibactam  
C) Meropenem-vaborbactam  
D) Imipenem-cilastatin-relebactam

3 of 4

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.2** Which one of the following antibiotics is least likely to be effective against DTR-*P. aeruginosa* infections?

A) Ceftolozane-tazobactam  
B) Ceftazidime-avibactam  
C) Meropenem-vaborbactam\*\*\*  
D) Imipenem-cilastatin-relebactam

4 of 4

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.3** In *Staphylococcus aureus*, the protein encoded by the *mecA* gene is which of the following:

A) Leukocidin  
B) PBP 2a  
C) Oxacillinase  
D) IL28 TT  
E) ESBL

1 of 2

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.3** In *Staphylococcus aureus*, the protein encoded by the *mecA* gene is which of the following:

A) Leukocidin  
B) PBP 2a\*\*\*  
C) Oxacillinase  
D) IL28 TT  
E) ESBL

2 of 2

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.4** Which of the following would be the best choice, among the drugs listed, to treat MSSA bacteremia:

A) Doripenem  
B) Imipenem  
C) Ceftriaxone  
D) Cefazolin  
E) Aztreonam

1 of 2

**QP2 Question Preview: Day 2**  
*Moderator: Henry Masur, MD*

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.4** Which of the following would be the best choice, among the drugs listed, to treat MSSA bacteremia:

- A) Doripenem
- B) Imipenem
- C) Ceftriaxone
- D) Cefazolin\*\*\***
- E) Aztreonam

2 of 2

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.5** An 14-year-old female presents to your office with sore throat, fever, and malaise, with lymphadenopathy and pharyngitis on physical exam.

Her heterophile antibody test (Monospot) is negative.

In addition to other tests, you order EBV-specific serology.

1 of 3

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.5** Which EBV-specific antibody profile would confirm a diagnosis of acute infectious mononucleosis?

Response	VCA IgM	VCA IgG	EBNA IgG	EA IgG
A	+	+	+	+
B	+	+	-	+
C	-	+	+	+
D	-	-	+	-

2 of 3

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.5** Which EBV-specific antibody profile would confirm a diagnosis of acute infectious mononucleosis?

Response	VCA IgM	VCA IgG	EBNA IgG	EA IgG
A	+	+	+	+
<b>B***</b>	+	+	-	+
C	-	+	+	+
D	-	-	+	-

3 of 3

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.6** 35 year old woman with AML, day 15 of induction therapy. Presentation - fever, chills, diffuse erythematous rash.

Exam – 100/62, HR 120, grade 2 oral mucositis, diffuse, blanching, erythematous rash.

Cultures - Blood cultures with GPC in chains.


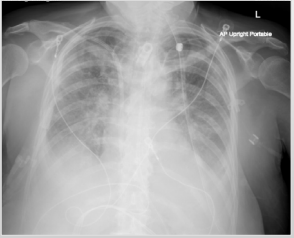
CXR - bilateral diffuse infiltrates.

Prophylaxis - levofloxacin and acyclovir.

1 of 4

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.6**

2 of 4

# QP2 Question Preview: Day 2

Moderator: Henry Masur, MD

## PREVIEW QUESTION 2024

INFECTIOUS DISEASE BOARD REVIEW

2.6 This is most consistent with infection with which of the following organisms?

- A) *Streptococcus pneumoniae*
- B) Coagulase-negative *Staphylococcus*
- C) *Enterococcus faecalis*
- D) *Streptococcus mitis*
- E) *Stomatococcus mucilaginosus*

3 of 4

## PREVIEW QUESTION 2024

INFECTIOUS DISEASE BOARD REVIEW

2.6 This is most consistent with infection with which of the following organisms?

- A) *Streptococcus pneumoniae*
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- C) *Enterococcus faecalis*
- D) *Streptococcus mitis*\*\*\*
- E) *Stomatococcus mucilaginosus*

4 of 4

## PREVIEW QUESTION 2024

INFECTIOUS DISEASE BOARD REVIEW

2.7 70 year-old male with newly diagnosed AML developed erythematous, tender and edematous plaques over sites of trauma (blood draws, peripheral IV).

He has been febrile to 38.7°C for the past several days.

1 of 4

## PREVIEW QUESTION 2024

INFECTIOUS DISEASE BOARD REVIEW

2.7



2 of 4

## PREVIEW QUESTION 2024

INFECTIOUS DISEASE BOARD REVIEW

2.7 The most likely etiology is:

- A) *Candida albicans*
- B) Sweet syndrome
- C) *Aspergillus niger*
- D) Varicella Zoster virus
- E) *Pseudomonas aeruginosa*

3 of 4

## PREVIEW QUESTION 2024

INFECTIOUS DISEASE BOARD REVIEW

2.7 The most likely etiology is:

- A) *Candida albicans*
- B) Sweet syndrome\*\*\*
- C) *Aspergillus niger*
- D) Varicella Zoster virus
- E) *Pseudomonas aeruginosa*

4 of 4

# QP2 Question Preview: Day 2

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## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.8** 54 yo male 60 days post-cardiac transplant was treated for rejection with steroids when fever and a non-tender anterior cervical mass appeared.

Biopsy showed nodal replacement by lymphocytes, many of which stained positively for Epstein-Barr virus as well as for the B cell marker, CD20.

His plasma EBV viral load was 10,000 copies /ml.

1 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.8** The most appropriate treatment for this condition is:

- A) Cidofovir
- B) Ganciclovir
- C) Acyclovir
- D) Cyclophosphamide
- E) Rituximab

2 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.8** The most appropriate treatment for this condition is:

- A) Cidofovir
- B) Ganciclovir
- C) Acyclovir
- D) Cyclophosphamide
- E) Rituximab\*\*\*

3 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.9** 52 yo female S/P cadaveric renal transplant receiving tacrolimus, prednisone and mycophenylate.

Week 30 post transplant serum creatinine rose from 1.5 to 2.3 mg/dl.

Tacrolimus levels were in therapeutic range.

Urinalysis revealed one plus protein and no cells or casts.

1 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.9** Which would be most helpful in understanding if BK virus was causing her renal failure?

- A) Presence of decoy cells in urine cytology
- B) Urine BK viral load
- C) Urine culture for BK virus
- D) Plasma BK viral load
- E) Demonstration of BK inclusions in renal tubular epithelium on renal biopsy

2 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.9** Which would be most helpful in understanding if BK virus was causing her renal failure?

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- B) Urine BK viral load
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- D) Plasma BK viral load
- E) Demonstration of BK inclusions in renal tubular epithelium on renal biopsy\*\*\*

3 of 3

# QP2 Question Preview: Day 2

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## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.10** A 50 year old female with alcohol substance abuse disorder suffered a provoked dog bite

Bite was cleansed, tetanus toxoid given, and the dog placed under observation

Patient is post-elective splenectomy for ITP; she received pneumococcal vaccine one year ago

One day later, the patient is admitted to the ICU in septic shock with severe DIC and peripheral symmetric gangrene of the tips of her fingers/toes

1 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.10** Which one of the following is the most likely etiologic bacteria?

- A) *Pasteurella canis*
- B) *Capnocytophaga canimorsus*
- C) *Fusobacterium sp.*
- D) *Bartonella henselae*

2 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

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- C) *Fusobacterium sp.*
- D) *Bartonella henselae*

3 of 3

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.11** A 45 year old USA male experiencing homelessness presents with fever and severe polymyalgia. On physical exam, animal bite marks found around his left ankle. A faint rash is visible on his extremities. Within 24 hours, blood cultures are positive for pleomorphic gram-negative bacilli.

Which one of the following is the most likely diagnosis?

- A) *Pasteurella multocida*
- B) *Haemophilus parainfluenza*
- C) *Spirillum minus*
- D) *Streptobacillus moniliformis*

1 of 2

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

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- D) *Streptobacillus moniliformis*\*\*\*

2 of 2

## PREVIEW QUESTION

INFECTIOUS DISEASE BOARD REVIEW 2024

**2.12** A 24-year-old woman is evaluated for cystitis symptoms of 3 days' duration. She reports no fever, chills, flank pain, or vaginal discharge. She had similar symptoms three months ago and was treated with trimethoprim-sulfamethoxazole, with relief of symptoms.

On physical examination, vital signs and other findings are unremarkable.

On microscopic urinalysis, leukocytes are too numerous to count, erythrocyte count is 10/hpf, 4+ bacteria are present, and rare squamous epithelial cells are seen. Urine pregnancy test is negative.

hpf, high-powered field; TMP/SMX, trimethoprim/sulfamethoxazole

1 of 3

# QP2 Question Preview: Day 2

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PREVIEW QUESTION 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.12** Which of the following is the most appropriate management?

- A) Nitrofurantoin
- B) TMP/SMX
- C) Fosfomycin
- D) Ciprofloxacin
- E) Ibuprofen

2 of 3

PREVIEW QUESTION 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.12** Which of the following is the most appropriate management?

- A) Nitrofurantoin\*\*\***
- B) TMP/SMX
- C) Fosfomycin
- D) Ciprofloxacin
- E) Ibuprofen

3 of 3

PREVIEW QUESTION 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.13** A 38-year-old woman comes in for recurrent UTI. This is her 3rd episode of symptomatic, culture-proven cystitis in the past 12 months. The recurrent UTIs are very inconvenient to her. She notes that her UTI symptoms usually begin within 2 days of sexual intercourse.

You offer an antibiotic prescription to allow her to self-treat when she feels the cystitis symptoms developing, but she travels internationally and would rather completely avoid developing a UTI.

1 of 3

PREVIEW QUESTION 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.13** Which of the following is the most appropriate strategy to prevent recurrent UTI in this woman?

- A) Nitrofurantoin daily for 24 months
- B) Nitrofurantoin one dose after intercourse for 6 months
- C) Ciprofloxacin daily for 6 months
- D) Trimethoprim-sulfamethoxazole twice daily for 6 months
- E) Cranberry tablets

2 of 3

PREVIEW QUESTION 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.13** Which of the following is the most appropriate strategy to prevent recurrent UTI in this woman?

- A) Nitrofurantoin daily for 24 months
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- C) Ciprofloxacin daily for 6 months
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- E) Cranberry tablets

3 of 3

PREVIEW QUESTION 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.14** A 30 year old heart transplant has received acyclovir for the past 60 days for cutaneous HSV infection. The lesions are now progressive in spite of high-dose intravenous therapy. The most likely cause for disease progression is a deficiency or alteration of:

- A) Ribonucleotide reductase
- B) Reverse transcriptase
- C) Protease
- D) Thymidine kinase
- E) DNA polymerase

1 of 2

# QP2 Question Preview: Day 2

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**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW


**2.14** A 30 year old heart transplant has received acyclovir for the past 60 days for cutaneous HSV infection. The lesions are now progressive in spite of high-dose intravenous therapy. The most likely cause for disease progression is a deficiency or alteration of:

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- B) Reverse transcriptase
- C) Protease
- D) Thymidine kinase\*\*\***
- E) DNA polymerase

2 of 2

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.15** An 18 year old man presents with a history of malaise, low-grade fevers, and new-onset painful genital lesions seen in the picture below. He had unprotected sexual intercourse with a female partner 2 weeks earlier. Neither he nor his partner has traveled outside the United States.



1 of 3

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

**2.15** Which of the following diagnostic tests is most likely to yield the specific diagnosis?

- A) Serum RPR
- B) Serum FTA-Abs
- C) Darkfield microscopy
- D) Glycoprotein-G 1 serum antibodies
- E) PCR on lesion swab**

1 of 3

**PREVIEW QUESTION** 2024 INFECTIOUS DISEASE BOARD REVIEW

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3 of 3