

Infectious Disease Scenarios

Scenario 1 of 6:

Reason for Visit: New-patient evaluation

HPI: A pregnant 20-year-old at 22 weeks gestation and newly diagnosed with HIV presents as a new patient. She is without complaints except for fatigue. She has no prenatal care to date.

Past Medical History: As above. Retroviral therapy has not been started. Previous high-risk sexual behavior, denies IVDA.

Review of Systems: As above

Physical Exam: Physical exam is normal. Fetal sonogram done in the office is consistent with dates and WNL.

Assessment and Plan: 22-week pregnancy with HIV. Admit and initiate retroviral therapy.

Scenario 2 of 6:
Emergency Department Services

HPI: A previously healthy 19-year-old male college student presents to the ER complaining of fever, muscle aches, headache, nausea and rash, which have all progressed rapidly over the last several hours. No known exposure to sick people, no illicit drug use or recent travel.

Past Medical History: As above. Vaccine history is unknown.

Review of Systems: As above.

Physical Exam: Temp.= 102, BP = 88/52, P = 118, and RR = 23. Cardiovascular and respiratory exams within normal limits. Neurological exam is significant for confusion and both Brudzinski and Kernig signs are positive. A petechial rash is present on the trunk and legs.

ED Course: Lumbar puncture - opening pressure is 300 mm H₂O. CSF leukocyte count is 3000/μL (3000 X 10⁶/L) which are mostly PMNs. Protein is 100 mg/dL (1000 mg/L) and glucose is low. No organisms are seen.

Clinical Impression: Meningitis due to *Neisseria meningitidis*

Disposition: Admit to ICU; initiate antibiotics and infection control protocol.

Scenario 3 of 6:

Chief Complaint: Fever and cough

HPI: The patient is a 21-year-old woman being seen for the acute onset of fever, myalgia, arthralgia, and nonproductive cough.

Past Medical History: Noncontributory.

Review of Systems: As above.

Physical Exam: Temp. = 102, RR = 18. A few crackles are heard at the left lung base.

Leukocyte count is 14,000/uL (14×10^9 L). Chest x-ray shows an infiltrate at the left base.

Assessment and Plan: Community-acquired pneumonia - start antibiotics.

Scenario 4 of 6:
Emergency Department Services

HPI: A 45-year-old HIV positive man presents to the ER complaining of headache, fever, and weakness for 2 weeks.

Past Medical History: History of IVDA, noncompliant with anti-retroviral therapy. Smoker.

Review of Systems: As above

Physical Exam: Temp. = 99. Patient is awake and alert. Cardiovascular and pulmonary exams are WNL. There is no rash. Positive cervical lymphadenopathy but no nuchal rigidity. Rest of neuro exam is WNL.

Laboratory studies:

Leukocyte count	3000/ μ K (3.0×10^9 /L)
CD4 cell count	45/ μ L
HIV RNA viral load	120,000 copies/mL

ED Course: Lumbar puncture; CSF is clear, low protein-to-glucose ratio, positive cryptococcal antigen

Clinical Impression: Cryptococcal meningitis in HIV positive patient

Disposition: Admit to inpatient, start meds.

Scenario 5 of 6:
Emergency Department Services

HPI: A 30-year-old woman with a history of IVDA presents to the ER complaining of weakness, myalgias, shortness of breath with a nonproductive cough for 1 week. Subjective fever.

Past Medical History: Last drug use approximately 3 days ago. Smoker. No medications.

Review of Systems: As above.

Physical Exam: Patient appears ill. Temp. = 102, BP = 122/72, P = 105, and RR = 23. Breath sounds are course. There is a grade 3/6 holosystolic murmur at the left sternal border that radiates to the right. Prominent V- wave is present. Murmur increases with inspiration. No pedal edema.

Laboratory studies show WBC of 14, ESR = 80. Chest x-ray shows multiple alveolar opacities in the right lung.

Blood cultures are obtained.

Clinical Impression: Tricuspid valve endocarditis with pulmonary septic emboli

Disposition: Admit to inpatient - broadspectrum antibiotics, TEE.

Scenario 6 of 6:
Emergency Department Services

HPI: A 62-year-old male landscaper presents to the ER complaining of forgetfulness, tremor, low-grade fever and bilateral leg weakness, which has been progressive over several days. He has received multiple mosquito bites and he has noted dead crows in several yards he has been prepping for fall cleanup.

Past Medical History: Hypertension, controlled on meds.

Review of Systems: As above.

Physical Exam: Temp. = 101, BP = 120/82, P = 88, and RR = 18. Cardiovascular and pulmonary exams are normal. Neuro exam is significant for flaccid paralysis in both legs, bilateral hand tremors and cogwheel rigidity.

MRI hypodense T₁ lesions in the thalamus, basal ganglia, and mid-brain. These lesions are hyper-intense with FLAIR. CSF is clear with lymphocytic meningitis findings. IGM antibodies are pending.

Clinical Impression: West Nile Encephalitis

Disposition: Admit to inpatient - supportive care, consider interferon.