

Comprehensive Antibigram Toolkit: Phase 3

Sample Vignettes

The following series of vignettes are similar to cases that a prescribing clinician may be presented with in a nursing home. Work through the vignettes and discussion questions—first without referring to the antibiogram and then by referring to the antibiogram.

1. Ms. Lee, a 71-year-old female, is a long-term resident of the nursing home. She has dementia and no recent hospitalizations. For review: She has been complaining to the nurses of dysuria, urinary frequency and urinary urgency since 8 p.m. last night. You assess the patient and find that her vital signs are HR 88, RR 16, BP 136/84, T 100.2 F, SpO2 98 percent. A urine dip shows 2+ leukocytes and 2+ nitrites, 50 WBCs, 5 RBCs, and 3+ bacteria. The patient generally appears well and has some mild suprapubic tenderness. A urine culture is pending.
2. Mr. Jones, a 76-year-old man, is a long-term resident of the nursing home facility. He has dementia and no recent hospitalizations. For review: His other medical problems include hypertension and osteoarthritis. Mr. Jones was transferred to the Emergency Department because he has been coughing for 3 days and today developed a fever. He has a hacking cough and is bringing up yellow/green sputum. His vital signs are T 100.5 F, HR 88, RR 16, BP 136/84, SpO2 95 percent. His chest x-ray shows a right middle-lobe infiltrate. His chem-7 and lactate are normal.
3. Ms. Williams, a 66-year-old woman, is a long-term resident of the nursing home. She has dementia and no recent hospitalizations. For review: She has a past medical history of osteoarthritis and elevated cholesterol, for which she takes acetaminophen and simvastatin. She was transferred to the Emergency Department after a nurse noticed an area on her right ankle and lower leg that is red, warm, and tender. The rest of her leg is not remarkable, and her calf is soft, nontender, and not swollen compared to the left side. Her vital signs are T 100.5 F, HR 88, RR 16, BP 136/84, SpO2 97 percent. Her chem-7 and lactate are normal.
4. Mr. Jackson is a 75-year-old, long-term resident of your facility, with no recent hospitalizations. For review: He has a history of postherpetic neuralgia and depression for which he takes gabapentin and citalopram. Mr. Jackson was transferred to the Emergency Department after having had a fever throughout the day: 101 F in the morning and 101.8 F when measured again this afternoon. His current vital signs are HR 90, BP 120/80, RR 14, SpO2 95 percent. He appears to be his normal self and does not have any specific complaints except that he is tired and has had some chills. You do not find anything new on his exam. A urine dip shows 1+ nitrites and no leukocyte esterase, 5 WBCs, 3 RBCs, and 1+ bacteria. A chest x-ray shows no acute process. You ordered cultures (blood and urine). His chem-7 and lactate are normal. His WBC count is 12,000 without bands.

Questions for Discussion Regarding Each Patient

- A. Would you prescribe this patient an antibiotic? What kind (IV, oral)?
- B. What disposition is most appropriate for this patient? Would you transfer and/or admit the patient to the hospital?
- C. What is the most appropriate antibiotic regimen for the symptoms described above? Give names, doses, and routes for each antibiotic you would recommend.
- D. [After using the antibiogram] How did having the antibiogram help to inform your decisions regarding this patient? What changes, if any, did you make to your action plan because of the antibiogram?



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Skilled Nursing Facility / Clinical Microbiology Laboratory Antibiogram for 1/1/2010 to 12/31/2010

	Gram Negative Rods				Gram Positive Rods			
	Escherichia coli	Klebsiella pneumoniae	Proteus mirabilis	Pseudomonas aeruginosa	Staphylococcus aureus	MRSA †	Staphylococcus coag. Neg	Enterococcus sp
# of Isolates	67	39	33	15*	35	12	18*	12*
Ciprofloxacin	60%	70%	60%	67%	0%	0%	50%	60%
Levofloxacin	63%	73%	60%	67%	50%	0%	50%	60%
Nitrofurantoin	94%	30%	0%	90%		96%		
Gentamicin	89%	90%	86%	90%		0%		80%
Ampicillin	42%	8%	84%			0%		
Cefazolin	71%		86%			0%		
Amikacin	97%	100%	100%	100%				
Cefepime	90%	90%	87%	93%				
Pip / Taz	95%	88%	100%	92%				
TMP / SMX	60%	70%	71%		95%	95%	50%	
Ceftriaxone	89%	75%	86%					
Cefoxitin	80%		100%					
Amox / Clav	78%	60%	100%					
Imipenem	100%	100%		100%				
Tetracycline					80%	71%	70%	40%
Vancomycin					100%	100%	100%	85%
Linezolid					90%	100%	65%	99%
Oxacillin					50%	0%		0%
Ceftazidime	96%	92%	100%	100%				
Erythromycin					33%	0%	50%	20%
Clindamycin					80%	50%	80%	

* Organisms with fewer than 30 isolates should be interpreted with caution, as small numbers may bias the group susceptibilities

† MRSA = Methicillin-resistant Staph aureus, and represents a subset of all Staph aureus isolates

Abbreviations: PIP/TAZ = Piperacillin/Tazobactam; TMP/SMX= Trimethoprim/sulfamethoxazole ;Amox/Clav = Amoxicillin/Clavunate