

Supplementary Materials: Medical Vignettes

1. Acute non-strep or unspecified pharyngitis

A 25 year old male presents with acute sore throat accompanied by subjective fever. He has no known sick contacts. On exam, oral temperature is 98.6°F (37°C), and there is an exudative pharyngitis without palpable cervical nodes. A rapid antigen test is negative for group A Streptococcus (GAS).

Of the drug choices below, please indicate which drugs you would choose in treating this patient. You may select up to 3 options.

Prescription Drugs Unpacked

☐ an antibiotic of your choice

☐ prescription NSAID

☐ tylenol with codeine

Over-the-counter drugs:

☐ analgesic throat spray ☐ oral analgesic (e.g., an OTC NSAID or acetaminophen)

☐ throat lozenge

OTC Unpacked

☐ analgesic throat spray

☐ oral analgesic (e.g., an OTC NSAID or acetaminophen)

☐ throat lozenge

Prescription Drugs:

☐ an antibiotic of your choice ☐ prescription NSAID ☐ tylenol with codeine

2. Acute Bronchitis

A 27-year-old woman with no known underlying lung disease presents with a 10-day history of cough that is productive of yellow nonbloody sputum. Her symptoms began with nasal congestion and a sore throat, but these initial symptoms resolved after a few days. Her remaining symptom is the cough which is less productive than it was several days ago. She denies any known sick contacts. Her cough does not occur in long fits, and there is no post-tussive emesis. On physical examination she is not in respiratory distress, afebrile, and has normal vital signs. Lung exam is normal.

Of the drug choices below, please indicate which drugs you would choose in treating this patient. You may select up to 3 options.

Prescription Drugs Unpacked

☐ albuterol inhaler

☐ an antibiotic of your choice

☐ robitussin with codeine

☐ tessalon perles

Over-the-counter drugs:

☐ cough lozenge ☐ cough spray ☐ cough syrup

OTC Unpacked

☐ cough lozenge

☐ cough spray

☐ cough syrup

Prescription drugs:

☐ albuterol inhaler ☐ an antibiotic of your choice ☐ robitussin with codeine ☐ tessalon perles

3. Acute nasopharyngitis (common cold)

A 44-year-old otherwise healthy woman presents with a 2-day history of runny nose and sore throat. She feels warm and sweaty, has a headache and muscle aches, and is coughing up clear sputum. On examination, she is afebrile with normal vital signs and she has edematous nares, a slightly inflamed pharynx, and mildly tender cervical lymphadenopathy. There is no neck stiffness, and her chest is clear.

Of the treatment choices below, please indicate which options you would most likely choose in treating this patient. You may select up to 3 options

Prescription Drugs Unpacked

☐ an antibiotic of your choice

☐ prescription NSAID

☐ robitussin with codeine

☐ tessalon perles

Over-the-counter drugs:

☐ a home remedy (fluids, rest, saltwater gargle, humidifier) ☐ cough suppressant ☐ combination pill (e.g., tylenol with decongestant and cough suppressant) ☐ decongestant ☐ an OTC NSAID

OTC Unpacked

☐ a home remedy (fluids, rest, saltwater gargle, humidifier)

☐ cough suppressant

☐ combination pill (e.g., tylenol with decongestant and cough suppressant)

☐ decongestant

☐ an OTC NSAID

Prescription Drugs:

☐ an antibiotic of your choice ☐ prescription NSAID ☐ robitussin with codeine ☐ tessalon perles

4. Otitis Media

An 18-year-old male presents with 1 week of rhinorrhea, cough, and congestion. He developed a fever overnight, and is currently experiencing pain, hearing loss, and popping sensations in his left ear. Physical examination reveals findings consistent with a viral respiratory infection, including rhinorrhea and congestion. In addition, otoscopy reveals a bulging, erythematous left tympanic membrane and absent landmarks.

Which *one* of the following antibiotics would you choose to treat this patient?

Broad-Spectrum Unpacked

☐ amoxicillin and clavulanate

☐ azithromycin

☐ cefdinir

☐ cefpodoxime

☐ ceftriaxone

☐ cefuroxime

☐ clarithromycin

Narrower-spectrum antibiotics:

☐ amoxicillin ☐ erythromycin ☐ trimethoprim-sulfamethoxazole

Narrow-Spectrum Unpacked

☐ amoxicillin

☐ erythromycin

☐ trimethoprim-sulfamethoxazole

Broader-spectrum antibiotics:

☐ amoxicillin and clavulanate ☐ azithromycin ☐ cefdinir ☐ cefpodoxime ☐ ceftriaxone
☐ cefuroxime ☐ clarithromycin

5. Urinary Tract Infection

A 24-year-old, healthy, sexually active woman presents with pain on urination and recent onset of urinary frequency and urgency. She has no costovertebral angle tenderness on examination. Urinalysis is positive for nitrite and leukocyte esterase.

Which *one* of the following antibiotics would you choose to treat this patient?

Broad-Spectrum Unpacked

☐ amoxicillin-clavulanate

☐ cefaclor

☐ cefuroxime

☐ ciprofloxacin

☐ levofloxacin

Narrower-spectrum antibiotics:

☐ amoxicillin ☐ doxycycline ☐ tetracycline ☐ trimethoprim-sulfamethoxazole

Narrow-Spectrum Unpacked

☐ amoxicillin

☐ doxycycline

☐ tetracycline

☐ trimethoprim-sulfamethoxazole

Broader-spectrum antibiotics:

☐ amoxicillin-clavulanate ☐ cefaclor ☐ cefuroxime ☐ ciprofloxacin ☐ levofloxacin

6. Sinusitis

An otherwise healthy 35-year-old woman presents with a 13-day history of sore throat, purulent nasal drainage, and nasal congestion. She also reports having dental pain, left facial pressure, and feeling like she has a fever. After 5 days of illness the patient's symptoms started to improve, but in the last few days these symptoms worsened again despite the use of over-the-counter medications. Physical exam shows edematous mucosa of the left inferior turbinate. There is also thick mucus in the nasal cavity. Nasal endoscopy demonstrates purulent drainage and a small polyp in the ostiomeatal complex. The adenoids are small and erythematous. She has not yet received any antibiotics for her current condition.

Which *one* of the following antibiotics would you choose to treat this patient?

Broad-spectrum Unpacked

- ☐ amoxicillin-clavulanate
- ☐ azithromycin
- ☐ cefaclor
- ☐ cefpodoxime
- ☐ cefuroxime
- ☐ clarithromycin
- ☐ levofloxacin
- ☐ moxifloxacin

Narrower-spectrum antibiotics:

- ☐ amoxicillin ☐ cephalexin ☐ clindamycin ☐ doxycycline ☐ tetracycline ☐ trimethoprim-sulfamethoxazole

Narrow-spectrum Unpacked

- ☐ amoxicillin
- ☐ cephalexin
- ☐ clindamycin
- ☐ doxycycline
- ☐ tetracycline
- ☐ trimethoprim-sulfamethoxazole

Broader-spectrum antibiotics:

- ☐ amoxicillin-clavulanate ☐ azithromycin ☐ cefaclor ☐ cefpodoxime ☐ cefuroxime
- ☐ clarithromycin ☐ levofloxacin ☐ moxifloxacin

7. Cellulitis

A 40-year-old otherwise healthy man presents with recent onset of pain and redness involving the skin of his lower right leg and foot. Physical exam reveals a low-grade fever and fissures between the toes. There is tender edema and erythema extending from the dorsal surface of the right foot to the right pretibial area.

Which *one* of the following antibiotics would you choose to treat this patient?

Broad-spectrum Unpacked

☐ amoxicillin-clavulanate

☐ azithromycin

☐ cefadroxil

☐ cefuroxime

☐ clindamycin

☐ moxifloxacin

Narrower-spectrum antibiotics:

☐ cephalexin ☐ dicloxacillin ☐ erythromycin ☐ penicillin V

Narrow-spectrum Unpacked

☐ cephalexin

☐ dicloxacillin

☐ erythromycin

☐ penicillin V

Broader-spectrum antibiotics:

☐ amoxicillin-clavulanate ☐ azithromycin ☐ cefadroxil ☐ cefuroxime ☐ clindamycin
☐ moxifloxacin

Supplementary Materials: Results when re-coded responses are omitted from analysis

eTable 1. Percentage choosing aggressive treatment options as a function of menu partition.

	Aggressive treatment options listed individually	Aggressive treatment options grouped together	Model I: without provider demographic characteristics		Model II: with provider demographic characteristics	
			Difference [95% CI]	p-value	Difference [95% CI]	p-value
<i>All results combined</i>	44.2	33.1	11.1 [3.0, 19.2]	0.007	11.1 [03.7, 18.5]	0.003
<i>Antibiotic inappropriate vignettes (% choosing only prescription drugs)</i>	(n = 39)	(n = 45)				
Acute non-strep	28.2	17.8	10.4 [-7.6, 28.4]	0.256	3.1 [-17.1, 23.4]	0.761
Acute Bronchitis	73.7	65.9	7.8 [-12.0, 27.6]	0.442	16.8 [-4.1, 37.8]	0.116
Acute nasopharyngitis	05.1	04.4	0.7 [-8.5, 09.9]	0.884	0.6 [-10.2, 11.3]	0.915
Combined Results	35.4	29.1	6.3 [-3.9, 16.5]	0.229	7.0 [-3.7, 17.7]	0.197
<i>Antibiotic-appropriate vignettes (% choosing broad-spectrum)</i>	(n = 41)	(n = 43)				
Otitis Media	36.6	16.7	19.9 [1.4, 38.5]	0.035	22.2 [2.8, 41.6]	0.025
Urinary Tract Infection	55.0	43.9	11.1 [-10.5, 32.7]	0.315	8.8 [-13.5, 31.0]	0.440
Sinusitis	53.7	54.8	-1.1 [-22.5, 20.3]	0.920	-0.8 [-22.0, 20.5]	0.944
Cellulitis	58.5	29.3	29.3 [8.7, 49.8]	0.005	31.2 [10.5, 51.9]	0.003
Combined Results	50.9	36.1	14.8 [1.5, 28.0]	0.029	14.5 [1.7, 27.3]	0.026