Antibiotic Policy

Purpose

1. Prevent unnecessary and overuse of antibiotics.
2. Assist case managers with providing education to patients and family members regarding antibiotics in the decision-making process.
3. Provide aid to prescribers regarding antibiotics in the decision-making process.

Antibiotic Facts and Statistics

Facts

1. Common signs of infection are not present in the elderly (e.g., fever).
2. Familiar signs of infection are common when no infection is present at end-of-life (e.g., fever and bacteriuria).
3. According to the CDC, the most important tool to decreasing multidrug resistant organisms is decreasing unnecessary antibiotic use especially in long term care facilities and hospice.

Statistics

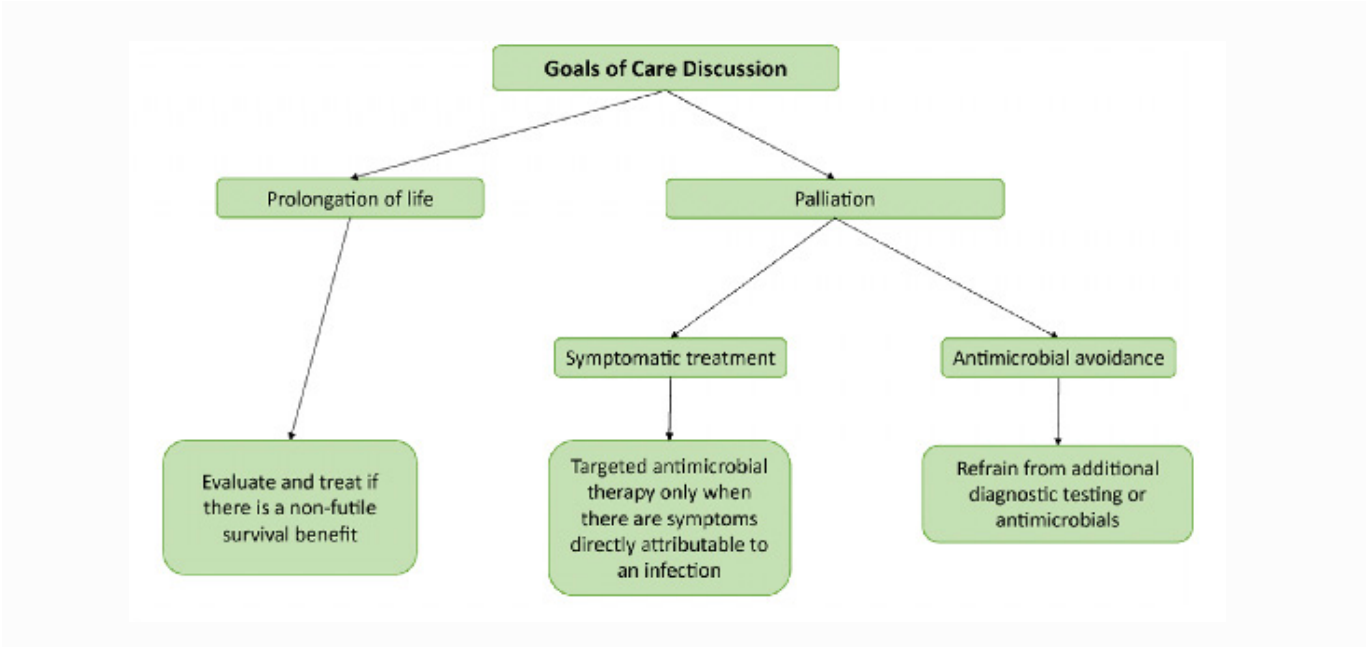
- 27-88% of hospice patients received antibiotics the last week of life
- Of the hospice patients receiving antibiotics….
- 15-30% reported symptoms managed
- 9% reported symptom relief (the last week of life)
- 48% reported fever controlled
- 31% had organism eradicated
- 31% have no documented infection

Purpose

1. Antibiotic preference will be added to the goals of care discussion.
    a. This is to prevent difficult discussions if antibiotics are ever needed. The decision will already be made and documented.
    b. Consider using MOLST form in place of POLST as it forces the antibiotic discussion (as permitted by state law).
2. Trial of NSAID to decrease fever before starting antibiotics when no other signs of infection are present. Noninfectious fevers are more responsive to NSAIDS such as naproxen than Tylenol.
3. Staff will be familiar of viral versus bacterial infections and treatments.
4. Antibiotic formulary is based on CDC Adult Treatment Recommendations.
5. Documentation of symptoms and diagnostic tool.
    a. Loeb criteria
    b. SBAR approved by agency
    c. McGeer criteria
    d. Resident Antimicrobial Management Plan (RAMP)
    e. Regional influenza profile
    f. Rapid viral testing

Goals of Care Discussion

A Proposed algorithm for use of antimicrobial agents at the end-of-life that begins with discussing antimicrobial use during a comprehensive goals-of-care discussion.



CDC Adult Treatment Recommendations

Acute rhinosinusitis 1,2

Epidemiology	Diagnosis	Management
About 1 out of 8 adults (12%) in 2012 reported receiving a diagnosis of rhinosinusitis in the previous 12 months, resulting in more than 30 million diagnoses. *90–98% of rhinosinusitis cases are viral, and antibiotics are not guaranteed to help even if the causative agent is bacterial.*	Diagnose acute bacterial rhinosinusitis based on symptoms that are: • Severe (>3-4 days), such as a fever of 39°C (102°F) and purulent nasal discharge or facial pain • Persistent (>10 days) without improvement, such as nasal discharge or daytime cough; or • Worsening (3-4 days) such as worsening or new onset fever, daytime cough, or nasal discharge after initial improvement of a viral upper respiratory infections (URI) *• Sinus radiographs are not routinely recommended.*	If a bacterial infection is established, watchful waiting is encouraged for uncomplicated cases for which reliable follow-up is available. Amoxicillin or amoxicillin/clavulanate is the recommended first-line therapy. Macrolides, such as azithromycin, are not recommended due to high levels of Streptococcus pneumoniae antibiotic resistance (~40%). For penicillin-allergic patients, doxycycline or a respiratory fluoroquinolone (levofloxacin or moxifloxacin) are recommended as alternative agents.

Acute bronchitis 3–5

Epidemiology	Diagnosis	Management
Cough is the most common symptom for which adult patients visit their primary care provider, and acute bronchitis is the most common diagnosis in these patients.	Evaluation should focus on ruling out pneumonia, which is rare among otherwise healthy adults in the absence of abnormal vital signs (heart rate >100 beats/min, respiratory rate >24 breaths/min, or oral temperature >38 °C) and abnormal lung examination findings. Colored sputum does not indicate bacterial infection. For most cases, chest radiography is not indicated.	Routine treatment of uncomplicated acute bronchitis with antibiotics is not recommended, regardless of cough duration. Options for symptomatic therapy include: • Cough suppressants (codeine, dextromethorphan); • First-generation antihistamines (diphenhydramine); • Decongestants (phenylephrine). Evidence supporting specific symptomatic therapies is limited.

Common cold or Non-specific upper respiratory infection 6,8

Epidemiology	Diagnosis	Management
The common cold is the third most frequent diagnosis in office visits, and most adults experience two to four colds annually. At least 200 viruses can cause the common cold.	Prominent cold symptoms include fever, cough, rhinorrhea, nasal congestion, postnasal drip, sore throat, headache, and myalgias.	Providers and patients must weigh the benefits and harms of symptomatic therapy. • Decongestants (pseudoephedrine and phenylephrine) combined with a first-generation antihistamine may provide short-term symptom relief of nasal symptoms and cough. • Non-steroidal anti-inflammatory drugs can be given to relieve symptoms. Evidence is lacking to support antihistamines (as monotherapy), opioids, intranasal corticosteroids, and nasal saline irrigation as effective treatments for cold symptom relief.

Pharyngitis 8,9

Epidemiology	Diagnosis	Management
Group A beta- hemolytic streptococcal (GAS) infection is the only common indication for antibiotic therapy for sore throat cases. Only 5–10% of adult sore throat cases are caused by GAS.	Clinical features alone do not distinguish between GAS and viral pharyngitis; a rapid antigen detection test (RADT) is necessary to establish a GAS pharyngitis diagnosis. Those who meet two or more Centor criteria (e.g., fever, tonsillar exudates, tender cervical lymphadenopathy, absence of cough) should receive a RADT. Throat cultures are not routinely recommended for adults.	Antibiotic treatment is NOT recommended for patients with negative RADT results. Amoxicillin and penicillin V remain first-line therapy due to their reliable antibiotic activity against GAS. For penicillin-allergic patients, cephalexin, cefadroxil, clindamycin, or macrolides are recommended. GAS antibiotic resistance to azithromycin and clindamycin are increasingly common. Recommended treatment course for all oral beta lactams is 10 days.

Acute cystitis 10,11

Epidemiology	Diagnosis	Management
Cystitis is among the most common infections in women and is usually caused by E. coli.	Classic symptoms include dysuria, frequent voiding of small volumes, and urinary urgency. Hematuria and suprapubic discomfort are less common. Nitrites and leukocyte esterase are the most accurate indicators of acute uncomplicated cystitis	For acute uncomplicated cystitis in healthy adult non-pregnant, premenopausal women: • Nitrofurantoin, Bactrim (TMP-SMX, where local resistance is <20%), and fosfomycin are appropriate first-line agents. • Fluoroquinolones (e.g. ciprofloxacin) should be reserved for situations in which other agents are not appropriate.

Antibiotic Formulary

Brand	Generic	Dose	Duration	Cost/Unit	Therapy Cost* (low)	Therapy Cost* (high)
Amoxil	**Amoxicillin**	1000mg BID	7 to 14 days	500mg $0.14-$0.54 250mg/5ml $0.08/ml 400mg/5ml $0.12/ml	$7.84	$30.24
Augmentin	**Amoxicillin/ clavulanate**	500mg TID	5 days	500mg $1.76-$2.25 875mg $0.98-$2.88 600mg/5ml $0.21-$0.42/ml	$26.40	$33.75
Zithromax	**Azithromycin**	500mg Day 1 then 250mg x 4 days	5 days	250mg $1.21-$3.07 200mg/5ml $1.30/ml	$7.26	$18.42
Duricef	**Cefadroxil**	500mg BID	7 to 10 days	500mg $1.98-$3.90 500mg/5ml $0.67/ml	$39.60	$78.00
Ceftin	**Cefuroxime**	500mg BID	7-10 days	250mg $0.95-$3.94 500mg $1.33-$3.84	$26.60	$76.80
Keflex	**Cephalexin**	1000mg BID	7 to 10 days	500mg $0.25-$2.46 250mg/5ml $0.05-$0.19/ml	$10.00	$98.40
Cipro	**Ciprofloxacin**	500mg BID	7 days	250mg $0.26-$2.45 500mg $0.24-$9.28 500mg/5ml $1.08/ml	$3.36	$129.92
Biaxin	**Clarithromycin**	500mg BID	5 days	500mg $1.03-$3.11 250mg/5ml $1.35/ml	$10.30	$31.10
Cleocin	**Clindamycin**	300mg QID	10 days	150mg $042-$2.62 300mg $0.54-$3.65	$21.60	$146.00
Vibramycin	**Doxycycline**	100mg BID	7 days	100mg $0.41-$9.51 150mg $13.35	$5.74	$133.14
Levaquin	**Levofloxacin**	500mg QD	5 days	250mg $0.25-$8.15 500mg $0.32-$6.10	$1.60	$30.50
Flagyl	**Metronidazole**	500mg TID	10 to 14 days	250mg $0.16-$1.33 500mg $0.18-$8.81	$5.40	$264.30
Avelox	**Moxifloxacin**	400mg qd	3-5 days	400mg $5.46-$8.44	$27.30	$42.20
Neo-Fradin	**Neomycin**	500mg QID	10 to 14 days	500mg $0.72	$40.32	$40.32
Macrobid	**Nitrofurantoin**	100mg BID	3 to 7 days	100mg $1.66-$5.91 25mg/5ml $1.98/ml	$23.24	$82.74
Veetids	**Penicillin VK**	1000mg BID	5 to 10 days	500mg $0.32-$1.72 250mg/5ml $0.09/ml	$12.80	$68.80
Bactrim Sulfatrim	**SMZ/TMP**	DS tablet: 1 tab BID	5 days	DS tab $0.29-$4.59 Susp $0.18-$0.30	$2.90	$45.90

Pink Highlight = Requires renal dosing adjustments

*High and low prices based on tablet or capsule unit spread of recommended dose
Most areas with populations 100,000+ trend to the lower end

Loeb Minimum Criteria for Initiation of Antibiotic

Patient Name: _____ **Date of Infection:** _____ **Date of Review:** _____

UTI: □ evaluated □ criteria met **LRTI:** □ evaluated □ criteria met **SSTI:** □ evaluated □ criteria met **FUO:** □ evaluated □ criteria met

Suspected Infection Syndrome	Minimum Criteria for Starting Antibiotic Therapy
Urinary tract infection *without catheter*	Either one of the following criteria □ Acute dysuria, OR □ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline, AND ≥1 of the following new or worsening symptoms □ Urgency □ Frequency □ Suprapubic pain □ Gross hematuria □ Urinary incontinence □ Costovertebral angle tenderness
with catheter	At least one of the following criteria □ Rigors □ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline □ New onset delirium □ New costovertebral angle tenderness
Note: Residents with intermittent catheterization or condom catheter should be categorized as 'without catheter' *Urine culture should be sent prior to starting antibiotics* *Antibiotics should not be started for cloudy or foul smelling urine*	
Lower respiratory tract infection *with temp >38.9 °C (102 °F)*	At least one of the following criteria □ Productive cough □ Respiratory rate >25 breaths / minute
with temp >37.9 °C (100 °F) or 1.5 ºC (2.4 ºF) above baseline	Both of the following criteria □ Cough, AND □ At least one of the following criteria □ Pulse >100 beats / minutes □ Delirium □ Rigors □ Respiratory rate >25 breaths / minute
afebrile with COPD and >65 years old	Both of the following criteria □ New or increased cough □ Purulent sputum production
afebrile without COPD	All of the following criteria □ New cough □ Purulent sputum production □ At least one of the following criteria □ Delirium □ Respiratory rate >25 breaths / minute
with new infiltrate on chest X-ray consistent with pneumonia	At least one of the following criteria □ Productive cough □ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline □ Respiratory rate >25 breaths / minute
Note: Consider ordering chest X-ray and CBC with differential for febrile residents with cough and any of these criteria (HR >100, worsening mental status, or rigors) *Antibiotics should not be used for up to 24 h after large-volume aspiration in those without COPD but with temp ≤38.9ºC (102 ºF) and non-productive cough*	
Skin and soft-tissue infection	Either one of the following criteria □ New or increasing purulent drainage, OR □ At least two of the following criteria □ Redness (erythema) □ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline □ Tenderness □ New or increasing swelling at affected site □ Warmth
Note: These criteria do not apply to residents with burns *Surgical consultation and hospitalization are required for certain soft-tissue infections (e.g., necrotizing fasciitis or gas gangrene)*	
Fever where the Focus of Infection is Unknown	Both of the following criteria □ Temp >37.9 °C (100 °F) or 1.5 °C (2.4 °F) above baseline, AND □ At least one of the following criteria □ Rigors □ Delirium
Note: Antibiotic should not be started in residents with fever and altered mental status that does not meet delirium criteria (e.g., reduced functional activities, withdrawal, loss of appetite)	

Reference: Loeb M, *et al*. Infect Control Hosp Epidemiol 2001;22:120-4

SBAR Communication Tool Template for Suspected Lower Respiratory Tract Infection

S — Situation

I am concerned about a suspected lower respiratory tract infection (pneumonia/bronchitis) for the above patient.

B — Background

History of COPD ☐ Yes ☐ No
History of heart failure ☐ Yes ☐ No
History of LRTI* in last 6 months ☐ Yes ☐ No
Use of supplemental O_2 ☐ Yes ☐ No
O_2 requirement has increased ☐ Yes ☐ No
if yes, Date: _____ Treatment: _____

Active chronic diagnosis (especially chronic lung, heart, or renal diseases, malignancies, asplenia, immunosuppression, diabetes):
____**
____
____

Advance directives for limiting treatment (especially antibiotic use):
____

Medication allergies:
____

A — Assessment

Vital signs: BP _____/_____ HR _____ Resp. rate _____ Temp. _____ O_2 Sats. _____

Residents with fever ≥102°F (38.9°C)

Criteria are met to initiate antibiotics if ONE of the following are selected:

No Yes
☐ ☐ New or increased cough
☐ ☐ New or increased sputum production
☐ ☐ Respiratory rate ≥25 breaths/minute
☐ ☐ O_2 sat <94% on room air or >3% decrease from baseline O_2 sat
☐ ☐ New or changed lung exam abnormalities
☐ ☐ Pleuritic chest pain

Residents with fever ≥100°F (37.9°C) but <102°F (38.9°C) or ≥2.4°F (1.5°C) above baseline temperature

Criteria are met to start antibiotics if BOTH of the following are selected:

No Yes
☐ ☐ New or increased cough, AND
☐ ☐ At least one of the following:
- ☐ Pulse >100 beats / minute
- ☐ New or worsened delirium
- ☐ Rigors
- ☐ Respiratory rate ≥25 breaths/minute

Afebrile resident with COPD and age >65 years old

Criteria are met to initiate antibiotic if BOTH of the following are selected:

No Yes
☐ ☐ New or increased cough, AND
☐ ☐ Purulent sputum production

Afebrile resident without COPD and age >65 years old

Criteria are met to initiate antibiotic if ALL of the following are selected:

No Yes
☐ ☐ New or increased cough, AND
☐ ☐ Purulent sputum production, AND
☐ ☐ At least one of the following:
- ☐ New or worsened delirium
- ☐ Respiratory rate ≥25 breaths/minute

R — Recommendations

☐ **Protocol criteria met.** Resident may require a chest X-ray, CBC with differential, and/or antibiotics.

☐ **Protocol criteria NOT met.** Resident **does not** need immediate antibiotic order but may need additional observation.

Nurse's Signature: **Date:**

☐ **Notification of Family/POA Name:** **Date/Time:**

☐ **Faxed or** ☐ **Called to:** **By:** **Time:**

Physician Orders/Response (Please check all that apply)

☐ I have reviewed the above **SBAR**.

☐ For cough, use cough suppressant: _____ Dose: _____ Route: _____ Frequency: _____ Duration: _____.

☐ For fever, use acetaminophen. Dose: _____ Route: _____ Frequency: _____ Duration: _____.

☐ For shortness of breath, inhale/nebulize: _____ Dose: _____ Route: _____ Frequency: Duration: _____.

☐ Encourage 4 oz. of fluid (_____) TID, until symptoms resolve.

☐ Record fluid intake & output until symptoms resolve (output can also be measured from urinal or by weighing briefs, etc.).

☐ Assess vital signs, including temp, every _____ hours for _____ hours; notify PCP if symptoms worsened or unresolved in hours.

_____

☐ For antibiotic orders (if needed) please complete script

Drug: _____ Dose: _____ Route: _____ Frequency: _____ Duration: _____ Indication:

Physician Signature	Date

*LRTI-Lower Respiratory Infection

Clinical Assessment and Communication Tool Template for Suspected UTI

S

Situation

I am concerned about a suspected UTI for the above resident.

B

Background

Indwelling catheter □Yes □No If yes, □ Urethral □ Suprapubic

Incontinence □Yes □No If yes, is this new or worsening □Yes □No

UTI in last 6 months □Yes □No If yes, Date: _____ Organism: _____ Treatment: _____

Active diagnosis (especially bladder, kidney, genitourinary conditions; diabetes; receiving dialysis, anticoagulants):

_____

_____

_____

Advance directives for limiting treatment (especially antibiotic use): _____

_____

_____

Medication allergies:_____

_____

_____

A

Assessment

Vital signs: BP____ /____ HR_____ Resp. rate_____ Temp._____ 0_2 Sats._____

Resident WITH indwelling catheter	**Resident WITHOUT indwelling catheter**
The criteria are met to initiate antibiotics if one of the following are selected: No Yes □ □ Fever of 100°F (38°C) or repeated temperatures of 99°F (37°C) □ □ New back or flank pain □ □ Rigors / shaking / chills □ □ New onset delirium (new dramatic change in mental status) □ □ Hypotension (significant change in baseline BP or SBP <90) □ □ Acute suprapubic pain □ □ Acute pain, swelling or tenderness of the scrotal area	Criteria are met to initiate antibiotics if one of the three situations are met: No Yes □ □ Any one of the following two: □ Acute dysuria alone (pain or burning while urinating) □ Acute pain, swelling or tenderness of the scrotal area *OR* □ □ Single temp of 100°F (38°C) and at least one new or worsening of th following: □ Urgency □ Suprapubic pain □ Frequency □ Gross hematuria □ Back or flank pain □ Urinary incontine *OR* □ □ No fever, but two or more of the following symptoms: □ Urgency □ Suprapubic pain □ Frequency □ Gross hematuria □ Urinary incontinence

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R

Recommendation

□ **Protocol criteria met**. Resident may require UA and urine culture or an antibiotic.

□ **Protocol criteria are NOT met**. Resident **DOES NOT** need immediate antibiotic but may need additional observation.

Nurse's Signature: _____ **Date/Time:**

□ **Notification of Family/POA Name:** **Date/Time:**

□ **Faxed or** □ **Called to:** _____ **By:** _____ **Date/Time:**

Physician Orders/Response (Please check all that apply)

□ I have reviewed the above **SBAR**.

□ Urine culture (if indicated)
□ Encourage 4oz of cranberry juice or another liquid (_____) TID, until symptoms resolve
□ Record fluid intake & output until symptoms resolve (output can also be measured from urinal or by weighing diapers, etc.)
□ Assess vital signs, including temp; every _____ hours for _____ hours
□ Monitor and notify PCP if symptoms worsen or unresolved in _____ hours
□ Other:

_____

□ For antibiotic orders (if needed) please complete script below:

Drug: _____ Dose: _____ Route: _____ Frequency: _____ Duration: _____ Indication: _____

Physician Signature:	**Date/Time:**

Revised McGeer Criteria for Infection Surveillance Checklist

Patient Name: _____ **Date of Infection:** _____ **Date of Review:** _____ **Reviewed by:** _____

UTI: □ evaluated □ criteria met **RTI:** □ evaluated □ criteria met **SSTI:** □ evaluated □ criteria met **GITI:** □ evaluated □ criteria met

Table 1. Constitutional Criteria for Infection

Fever	**Leukocytosis**	**Acute Mental Status Change**	**Acute Functional Decline**
Single oral temp >37.8 °C (100 °F), *OR* Repeated oral temp >37.2 °C (99 °F), *OR* Repeated rectal temp >37.5 °C (99.5 °F), *OR* Single temp >1.1 °C (2 °F) from baseline from any site	>14,000 WBC / mm^3, *OR* >6% band, *OR* ≥1,500 bands / mm^3	Acute onset, *AND* Fluctuating course, *AND* Inattention, *AND* Either disorganized thinking, OR altered level of consciousness	3-point increase in baseline ADL score according to the following items: 1. Bed mobility 2. Transfer 3. Locomotion within LTCF 4. Dressing 5. Toilet use 6. Personal hygiene 7. Eating [Each scored from 0 (independent) to 4 (total dependence)]

Table 2. Urinary Tract Infection (UTI) Surveillance Definitions

Syndrome	**Criteria**	**Selected Comments***
UTI without indwelling catheter	***Must fulfill both 1 AND 2.*** □ 1. At least one of the following sign or symptom □ Acute dysuria or pain, swelling, or tenderness of testes, epididymis, or prostate □ Fever or leukocytosis, and ≥ 1 of the following: □ Acute costovertebral angle pain or tenderness □ Suprapubic pain □ Gross hematuria □ New or marked increase in incontinence □ New or marked increase in urgency □ New or marked increase in frequency □ If no fever or leukocytosis, then ≥ 2 of the following: □ Suprapubic pain □ Gross hematuria □ New or marked increase in incontinence □ New or marked increase in urgency □ New or marked increase in frequency □ 2. At least one of the following microbiologic criteria □ ≥ 10^5 cfu/mL of no more than 2 species of organisms in a voided urine sample □ ≥ 10^2 cfu/mL of any organism(s) in a specimen collected by an in-and-out catheter	The following 2 comments apply to both UTI with or without catheter: ● UTI can be diagnosed without localizing symptoms if a blood isolate is the same as the organism isolated from urine and there is no alternate site of infection ● In the absence of a clear alternate source of infection, fever or rigors with a positive urine culture result in the non-catheterized resident or acute confusion in the catheterized resident will often be treated as UTI. However, evidence suggests that most of these episodes are likely not due to infection of a urinary source. ● Urine specimens for culture should be processed as soon as possible, preferably within 1-2 h ● If urine specimens cannot be processed within 30 min of collection, they should be refrigerated and used for culture within 24 h
UTI with indwelling catheter	***Must fulfill both 1 AND 2.*** □ 1. At least one of the following sign or symptom □ Fever, rigors, or new-onset hypotension, with no alternate site of infection □ Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis □ New-onset suprapubic pain or costovertebral angle pain or tenderness □ Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate □ 2. Urinary catheter specimen culture with ≥ 10^5 cfu/mL of any organism(s)	● Recent catheter trauma, catheter obstruction, or new onset hematuria are useful localizing signs that are consistent with UTI but are not necessary for diagnosis

		● Urinary catheter specimens for culture should be collected after replacement of the catheter if it has been in place >14 d
□ UTI criteria met		□ UTI criteria NOT met

* Refer to original article (Stone ND, *et al*. Infect Control Hosp Epidemiol 2012;33:965-77) for full comments

Revised McGeer Criteria for Infection Surveillance Checklist pg2

Table 3. Respiratory Tract Infection (RTI) Surveillance Definitions		
Syndrome	**Criteria**	**Selected Comments***
Common cold syndrome or pharyngitis	***Must fulfill at least 2 criteria.*** □ Runny nose or sneezing □ Stuffy nose or nasal congestion □ Sore throat, hoarseness, or difficulty in swallowing □ Dry cough □ Swollen or tender glands in the neck (cervical lymphadenopathy)	● Fever may or may not be present ● Symptoms must be new and not attributable to allergies
Influenza-like illness	***Must fulfill both 1 AND 2.*** □ 1. Fever □ 2. At least three of the following criteria □ Chills □ New headache or eye pain □ Myalgias or body aches □ Malaise or loss of appetite □ Sore throat □ New or increased dry cough	● If both criteria for influenza-like illness and another upper or lower RTI are met, only record diagnosis of influenza-like illness
Pneumonia	***Must fulfill 1, 2, AND 3.*** □ 1. Chest X-ray with pneumonia or a new infiltrate □ 2. At least one of the following criteria □ New or increased cough □ New or increased sputum production □ O_2 sat <94% on room air, or >3% decrease from baseline O_2 sat □ New or changed lung exam abnormalities □ Pleuritic chest pain □ Respiratory rate ≥25 breaths/min □ 3. At least one of the following criteria □ Fever □ Leukocytosis □ Acute mental status change □ Acute functional decline	● Conditions mimicking the presentation of RTI (e.g., congestive heart failure or interstitial lung diseases) should be excluded
Bronchitis or Tracheo-bronchitis	***Must fulfill 1, 2, AND 3.*** □ 1. Chest X-ray not performed, or negative for pneumonia or a new infiltrate □ 2. At least two of the following criteria □ New or increased cough □ New or increased sputum production □ O_2 sat <94% on room air, or >3% decrease from baseline O_2 sat □ New or changed lung exam abnormalities □ Pleuritic chest pain □ Respiratory rate >25 breaths/min □ 3. At least one of the following criteria □ Fever □ Leukocytosis □ Acute mental status change □ Acute functional decline	● Conditions mimicking the presentation of RTI (e.g., congestive heart failure or interstitial lung diseases) should be excluded
□ RTI criteria met		□ RTI criteria NOT met

* Refer to original article (Stone ND, *et al*. Infect Control Hosp Epidemiol 2012;33:965-77) for full comments

Resident Antimicrobial Management Plan (RAMP) Tool

Good practice points at initiation of antibiotics

- Clinical signs and symptoms present
- Resident examined by a physician
- Diagnosis/site of infection documented
- Clinical specimens sent* or UA
- Antibiotic appropriate for indication, allergies and comorbidities
- Antibiotic initiated promptly

Good practice points on review of antibiotic treatment

- Documentation of review after 48-72 hours
- Stop date or planned review date documented
- Resident re-examined by physician
- Results of cultures* or UA noted
- Outcome of treatment assessed

"In hospice a culture is often unnecessary as treatment is for comfort and not curative. Below are resources to learn microbial resistance patterns and common causes of infections in a specific area."

1. Facility or hospital antibiotic stewardship tracking
2. State Health Department
3. https://gis.cdc.gov/grasp/PSA/MapView.html
4. https://resistancemap.cddep.org/CountryPageSub.php?country=United+States

Is It The Flu?

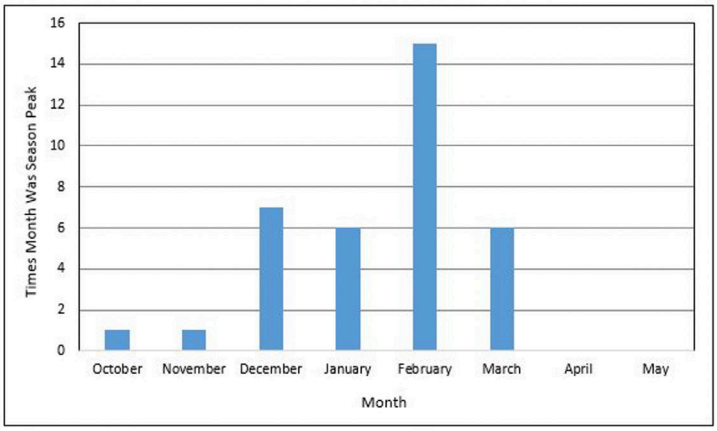
Influenza Outbreak Map - https://www.cdc.gov/flu/weekly/usmap.htm

Rapid Viral Test Options
OraSure QuickFlu A & B Rapid Test
$13.00-$18.00/test - Box of 22 tests
Phone: 800-ORASURE (800-672-7873)
Email: customercare@orasure.com

Status Flu A+B
$10.00-$16.00/test - Box of 22 or 25 tests
Phone: 800-526-2125
Email: info@lifesignmed.com

Immunocard STAT!® FLU A&B
$10.00-$15.00/test - Box of 32 tests
Phone: 888-763-6769
Email: mbi@meridianbioscience.com

QuickVue Influenza A&B
$14.00-$22.00/test - Box of 25 tests
Phone: 800-874-1517
Email: customerservice@quidel.com



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