**POLICY INTERPRETATION and IMPLEMENTATION**

Antibiotics are among the most commonly prescribed pharmaceuticals in long-term care settings, yet reports indicate that a high proportion of antibiotic prescriptions are unnecessary. The adverse consequences of unnecessary antibiotic use include adverse drug reactions or interactions, the development of *Clostridioides difficile* infections, the emergence of multi-drug resistant organisms (MDROs), antibiotic failure, increased mortality, and greatly increased costs. The Centers for Disease Control and Prevention characterizes antibiotic resistance as “one of the world’s most pressing public health threats.” Unnecessary prescribing practices by clinicians and overuse of newer, broad-spectrum antibiotics when either no antibiotic or an older narrow‑spectrum drug would suffice are believed to be the primary contributors to this problem. As a result of the above complexities, nursing homes are increasingly recognized as reservoirs of antibiotic-resistant bacteria.

To address these issues, this facility has developed an Antibiotic Stewardship Program (ASP) to “optimize the treatment of infections while reducing the adverse events associated with antibiotic use.” Antibiotic Stewardship (AS) is the act of using antibiotics appropriately – that is, using them only when truly needed and using the right antibiotic for each infection. This program will promote and monitor safe and effective antibiotic use to improve resident care and strive to reduce antimicrobial resistance.

Orientation, training and education of staff will emphasize the importance of antibiotic stewardship and will include how inappropriate use of antibiotics affects individual residents and the overall community.

The Antibiotic Stewardship Committee will oversee the Antibiotic Stewardship Program and will consist of the following members: Medical Director, Director of Nursing, Director of Staff Development, Infection Preventionist, and Pharmacy Consultant.

The Antibiotic Stewardship Committee will:

1. Support and promote the use of antibiotic guidelines
2. Develop systems to monitor antibiotic use upon admission in conjunction with consulting/dispensing pharmacist
3. Review antibiotic prescriptions for appropriateness of dose, duration, and indication
4. Provide staff with infection control training that includes the difference between colonization and infection, and multi-drug resistant organism (MDRO) prevention
5. Provide residents and/or health care representatives with education regarding antibiotic stewardship activities.
6. Review antibiotic use data by Medical Providers
7. Provide written report quarterly to the QA Committee
8. Review antibiotic usage quarterly to look for opportunities for improvement to decrease the use of unnecessary antibiotics and to help reduce antibiotic resistance
9. Review facility antibiogram at least annually

**Guidance for Antibiotic Prescription/Usage**:

1. Nurses will utilize the Loeb Criteria Checklist or the revised McGeer Criteria for infection surveillance checklist
2. The licensed nurse will have the following information ready before calling a physician/prescriber to communicate a suspected infection:
	1. Signs and symptoms
	2. When symptoms were first observed
	3. Current medication list
	4. Allergy information
	5. Recent antibiotic usage
3. Prescribers will utilize microbiologic and radiologic findings to confirm clinical evidence of infection
	1. Prescribers are asked to justify and document the indication for using antibiotics
	2. The antibiotic is ordered for the shortest period possible while still being effective
	3. Re-culture after the course of antibiotic is not typically necessary
4. Practitioners are requested to prescribe antibiotic therapy only when likely to be beneficial to the resident
	1. Encouraged to avoid the use of antibiotics to treat colonization
	2. Encouraged to avoid the use of antibiotics to treat viral infections such as influenza, common colds and viral gastroenteritis
	3. Encouraged to assess and document the resident’s response to antibiotic therapy 2-3 days post antibiotic start
5. Prescribers will provide complete antibiotic orders including the following elements:
	1. Drug name
	2. Dose
	3. Frequency of administration
	4. Duration of treatment (start & stop date *OR* # of days of therapy)
	5. Route of administration
	6. Indications for use
6. Primary Care Physician /NP/PA will monitor/review resident response to antibiotics, and laboratory results when available, to determine if the antibiotic is still indicated or adjustments should be made (e.g., antibiotic time-out)
7. When a culture and sensitivity (C&S) is ordered:
	1. Results will be treated as high priority
	2. Lab results will be communicated to the prescriber as soon as available to determine if antibiotic therapy should be started, continued, modified, or discontinued
	3. Changes to antibiotic orders based on C&S will be reviewed by the facility infection preventionist or RN designee
8. The facility will provide post-prescribing information and follow-up to aid in:
	1. Tailoring antibiotics to subsequent microbiology and radiology results
	2. Changing antibiotics from broad to narrower-spectrum (de-escalation)
	3. Shortening duration of antibiotic therapy when appropriate
	4. Adjusting antibiotic doses based on drug levels and end-organ function
	5. Converting an antibiotic from IV to an equally effective oral formulation
9. Routine cultures are not done

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 6/29/2019

 11/15/2019

 1/31/2022

 9/27/22

**References**:

[Appendix PP State Operations Manual.pdf](file:///C%3A%5CUsers%5CGNY%5CDocuments%5CNew%20folder%20%282%29%20Rockaway%20Care%20DPOC%5CAppendix%20PP%20State%20Operations%20Manual.pdf)( 2022) F881 §483.80(a)(3) An antibiotic stewardship program that includes antibiotic use protocols and a system to monitor antibiotic use.

Agency for Healthcare Research and Quality. (2016). Toolkit 5. Nursing Home Antimicrobial Stewardship Guide: Implement, Monitor, and Sustain a Program. Available at: <http://www.ahrq.gov/nhguide/index.html>

CDC. The Core Elements of Antibiotic Stewardship for Nursing Homes. Atlanta, GA: US Department of Health and Human Services, CDC; 2015. Available at: <http://www.cdc.gov/longtermcare/index.html>

**Loeb Criteria Checklist**

**Patient Name:** **MRN:** **Location:**

**Date of Infection:**  **Date of Review:**  **Reviewed by:**

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

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| 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 ⁰C (100 ⁰F) or 1.5 ⁰C (2.4 ⁰F) 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 ⁰C (100 ⁰F) or 1.5 ⁰C (2.4 ⁰F) 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 ⁰C (102 ⁰F)* | At least one of the following criteria □ Productive cough □ Respiratory rate >25 breaths / minute |
|  *with temp >37.9 ⁰C (100 ⁰F) 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 ⁰C (100 ⁰F) or 1.5 ⁰C (2.4 ⁰F) 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 ⁰C (100 ⁰F) or 1.5 ⁰C (2.4 ⁰F) 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 ⁰C (100 ⁰F) or 1.5 ⁰C (2.4 ⁰F) 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.

**Revised McGeer Criteria for Infection Surveillance Checklist**

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

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| Table 1. Constitutional Criteria for Infection |
| Fever | **Leukocytosis** | **Acute Mental Status Change** | **Acute Functional Decline** |
| Single oral temp >37.8 ⁰C (100 ⁰F),*OR*Repeated oral temp >37.2 ⁰C (99 ⁰F), *OR*Repeated rectal temp >37.5 ⁰C (99.5 ⁰F),*OR*Single temp >1.1 ⁰C (2 ⁰F) from baseline from any site | >14,000 WBC / mm3, *OR*>6% band, *OR*≥1,500 bands / mm3 | 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 mobility2. Transfer3. Locomotion within LTCF4. Dressing5. Toilet use6. Personal hygiene7. Eating[Each scored from 0 (independent) to 4 (total dependence)] |

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| 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 □ ≥ 105 cfu/mL of no more than 2 species of organisms in a voided urine sample □ ≥ 102 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
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| 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 ≥ 105 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 |

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| 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

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| 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 □ O2 sat <94% on room air, or >3% decrease from baseline O2 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 □ O2 sat <94% on room air, or >3% decrease from baseline O2 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

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| Table 4. Skin and Soft Tissue Infection (SSTI) Surveillance Definitions |
| Syndrome | **Criteria** | **Selected Comments\*** |
| Cellulitis, soft tissue, or wound infection  | ***Must fulfill at least 1 criteria.***□ Pus at wound, skin, or soft tissue site□ At least four of the following new or increasing sign or symptom □ Heat (warmth) at affected site □ Redness (erythema) at affected site □ Swelling at affected site □ Tenderness or pain at affected site □ Serous drainage at the affected site □ At least one of the following □ Fever □ Leukocytosis □ Acute changed in mental status □ Acute functional decline  | * More than 1 resident with streptococcal skin infection from the same serogroup (e.g., A, B, C, G) may indicate an outbreak
* Positive superficial wound swab culture is not sufficient evidence to establish a wound infection

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| Scabies | ***Must fulfill both 1 AND 2.***□ 1. Maculopapular and/or itching rash□ 2. At least one of the following criteria □ Physician diagnosis □ Lab confirmation (scraping or biopsy) □ Epidemiologic linkage to a case of scabies with lab confirmation  | * Must rule out rashes due to skin irritation, allergic reactions, eczema, and other non-infectious skin conditions
* Epidemiologic linkage refers to geographic proximity, temporal relationship to symptom onset, or evidence of common source of exposure
 |
| Oral candidiasis | ***Must fulfill 1 AND 2.***□ 1. Presence of raised white patches on inflamed mucosa or  plaques on oral mucosa□ 2. Medical or dental diagnosis |  |
| Fungal skin infection | ***Must fulfill 1 AND 2.***□ 1. Characteristic rash or lesions□ 2. Physician diagnosis or lab confirmation of fungal pathogen from skin scraping or biopsy) |  |
| Herpes simplex or Herpes zoster infection | ***Must fulfill 1 AND 2.***□ 1. A vesicular rash□ 2. Physician diagnosis or lab confirmation | * Reactivation of herpes simplex (cold sore) or herpes zoster (shingles) is not considered a healthcare-associated infection
 |
| Conjunctivitis | ***Must fulfill at least 1 criteria.***□ Pus from one or both eyes for ≥ 24 h□ New or increased conjunctival erythema +/- itching□ New or increased conjunctival pain for ≥ 24 h | * Conjunctivitis symptoms (pink eye) should not be due to allergy or trauma
 |
|  □ SSTI criteria met □ SSTI criteria NOT met |

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

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| Table 5. Gastrointestinal Tract Infection (GITI) Surveillance Definitions |
| Syndrome | **Criteria** | **Selected Comments\*** |
| Gastroenteritis  | ***Must fulfill at least 1 criteria.***□ Diarrhea: ≥ 3 liquid or watery stools above what is normal for the resident within 24 h□ Vomiting: ≥ 2 episodes in 24 h□ Both of the following sign or symptom □ Stool specimen positive for a pathogen (e.g., *Salmonella*, *Shigella, E coli* O157:H7, *Campylobacter* species, rotavirus) □ At least one of the following criteria □ Nausea □ Vomiting □ Abdominal pain or tenderness  □ Diarrhea | * Exclude non-infectious causes of symptoms such as new medications causing diarrhea, nausea, or vomiting or diarrhea resulting from initiation of new enteral feeding
* Presence of new GI symptoms in a single resident may prompt enhanced surveillance for additional cases
* In the presence of an outbreak, stool specimens should be sent to confirm the presence of norovirus or other pathogens (e.g., rotavirus, *E coli* O157:H7)

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| Norovirus gastroenteritis | ***Must fulfill both 1 AND 2.***□ 1. At least one of the following criteria □ Diarrhea: ≥ 3 liquid or watery stools above what is normal for the resident within 24 h □ Vomiting: ≥ 2 episodes in 24 h □ 2. A stool specimen positive for norovirus detected by electron microscopy, enzyme immunoassay, or molecular diagnostic testing  | * In the absence of lab confirmation, a norovirus gastroenteritis outbreak (≥ 2 cases in a LTCF) may be assumed if all of the Kaplan Criteria are present
	+ Vomiting in >50% of affected persons
	+ A mean or median incubation period of 24-48 h
	+ A mean or median duration of illness of 12-60 h, and
	+ No bacterial pathogen is identified in stool culture
 |
| *Clostridium difficile* infection | ***Must fulfill 1 AND 2.***□ 1. At least one of the following criteria □ Diarrhea: ≥ 3 liquid or watery stools above what is normal for the resident within 24 h □ Presence of toxic megacolon (radiologic finding of abnormal large bowel dilatation) □ 2. At least one of the following diagnostic criteria □ Stool sample positive for *C difficile* toxin A or B, or detection of toxin-producing *C difficile* by culture or PCR in stool sample  □ Pseudomembranous colitis identified in endoscopic exam, surgery, or histopathologic exam of biopsy specimen | * Individual previously infected with *C difficile* may continue to be colonized even after symptoms resolve
* In the setting of an outbreak of GI infection, individuals could be *C difficile* toxin positive because of ongoing colonization and also be co-infected with another pathogen. Other surveillance criteria should be used to differentiate between infections in this scenario
 |
|  □ GITI criteria met □ GITI criteria NOT met |

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