Updated McGeer Criteria for Infection Surveillance Tool

Resident First Name	Resident Last Name	Resident DOB	Resident Medical Record/ID Number
Resident Unit/ Room	**Date of Infection**	**Date of Review**	**Name of Reviewer**

Infection/Syndrome Reviewed	Surveillance Criteria Met
☐ Respiratory Tract Infection (RTI) ☐ Urinary Tract Infection (UTI) ☐ Skin/Soft Tissue, and Mucosal Infections (SSTI) ☐ Gastrointestinal Tract Infection (GITI)	☐ YES ☐ NO

Table 1. Constitutional Infection Criteria

Fever	Leukocytosis	Altered Mental Status*	Acute Functional Decline
One of the following: ☐ Single oral temp >37.8°C (>100°F) ☐ Repeated oral temp >37.3°C (99°F) or rectal temp >37.5°C (99.5°F) ☐ Single temp >1.1°C (>2°F) over baseline from any site (oral, tympanic, axillary)	**One** of the following: ☐ Elevated WBC (>14,000 cells/mm^3) ☐ Left Shift on Differential (>6% bands or ≥1,500 bands/mm^3)	**All** of the following: ☐ Acute onset ☐ Fluctuating Behavior ☐ Inattention ☐ Disorganized thinking/ altered level of consciousness	3-point increase from baseline: ☐ Activities of daily living, each scored from 0 – 4 (Independent to total dependence) - Bed mobility - Transfer - Locomotion within LTCF - Dressing - Toileting - Personal Hygiene - Eating

*Altered Mental Status Assessment Method Criteria

Acute Onset	*New, rapid change from baseline*
Fluctuating Behavior	*Behavior coming and going or changing in severity during the assessment*
Inattention	*Difficulty focusing attention (e.g., unable to keep track of discussion or easily distracted)*
Disorganized Thinking	*Incoherent (e.g., rambling conversation, unclear flow of ideas, unpredictable switches in subject/topic)*
Altered Level of Consciousness	*Level of consciousness is different from baseline (e.g., hyperalert, sleepy, drowsy, difficult to arouse, nonresponsive)*

Table 2. Respiratory Tract Infection (RTI) Surveillance Criteria		
Syndrome	**Criteria**	**Notes/Comments**
Common Cold or Pharyngitis	At least **2** of the following must be met: ☐ Runny nose or sneezing ☐ Stuffy nose (e.g., congestion) ☐ Sore throat or hoarseness or difficulty swallowing ☐ Dry cough ☐ Swollen or tender glands in the neck (cervical lymphadenopathy)	Fever may or may not be present during illness. Symptoms must be new and not attributable to allergies.
Influenza-like Illness	**Both** of the following must be met: ☐ Fever **AND** ☐ At least **3** of the following: ☐ Chills ☐ New headache or eye pain ☐ Myalgias or body aches ☐ Malaise or loss of appetite ☐ Sore throat ☐ New or increased dry cough	If criteria for influenza-like illness and another respiratory tract infection are met at the same time, only the influenza-like illness should be recorded. Because of the increasing uncertainty regarding the beginning of influenza season, peak influenza activity, and the length of influenza season, "seasonality" is no longer considered criterion for defining influenza-like illness.
Pneumonia	**All** of the following must be met: ☐ Chest radiograph demonstrating pneumonia ***OR*** the presence of a new infiltrate **AND** ☐ At least **1** of the following: ☐ New or increased cough ☐ New or increased sputum production ☐ O_2 saturation <94% on room air ***OR*** >3% reduction from baseline ☐ New or changed lung examination abnormalities ☐ Pleuritic chest pain ☐ Respiratory rate >25 breaths/min **AND** ☐ At least **1** of the constitutional criteria (Table 1)	The presence of underlying conditions that could mimic the presentation of a respiratory infection (e.g., congestive heart failure or interstitial lung diseases) should be excluded by review of clinical records and an assessment of presenting signs and symptoms.
Lower Respiratory Tract Infections (Bronchitis or Tracheobronchitis)	**All** of the following must be met: ☐ Chest radiograph not performed ***OR*** negative results for pneumonia or new infiltrate **AND** ☐ At least **2** of the following ☐ New or increased cough ☐ New or increased sputum production ☐ O_2 saturation <94% on room air ***OR*** >3% reduction from baseline ☐ New or changed lung examination abnormalities ☐ Pleuritic chest pain ☐ Respiratory rate >25 breaths/min **AND** ☐ At least **1** of the constitutional criteria (Table 1)	The presence of underlying conditions that could mimic the presentation of a respiratory infection (e.g., congestive heart failure or interstitial lung diseases) should be excluded by review of clinical records and an assessment of presenting signs and symptoms.

Table 3. Urinary Tract Infections (UTI) Surveillance Criteria		
Syndrome	**Criteria**	**Notes/Comments**
UTI (Without indwelling urinary catheter)	**Both** of the following must be met: ☐ At least **1** of the following: ☐ Acute dysuria ☐ Acute pain, swelling, or tenderness of the testes, epididymis, or prostate ☐ With fever/leukocytosis (**+** at least **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 ☐ Without fever/leukocytosis, (**+** at least **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 **AND** ☐ **One** of the following microbiologic criteria: - Voided urine sample: ☐ At least 10^5 cfu/mL of ≤ 2 species of microorganisms - In-and-out catheter sample: ☐ At least 10^2 cfu/mL of any number of microorganisms	UTI should be diagnosed when there are localizing genitourinary signs and symptoms and a positive urine culture result. A diagnosis of UTI can be made without localizing symptoms if a blood culture isolate is growing the same organism as the urine culture and there is no alternate site of infection. In the absence of a clear alternative source of infection, fever or rigors, and 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 1-2h. If specimen cannot be processed within 30 mins, it should be refrigerated and cultured within 24hrs.
UTI (With indwelling urinary catheter)	**Both** of the following must be met: ☐ At least **1** of the following: ☐ Fever, rigors, or new-onset hypotension (With no alternate site of infection) ☐ 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 entry point ☐ Acute pain, swelling, or tenderness of the testes, epididymis, or prostate **AND** ☐ Urinary catheter specimen with at least 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 following replacement of the catheter (if current catheter has been in place for >14 days). Urinary catheter specimens for cultures should not be collected from the urine collection bag.
Notes: Pyuria does not differentiate symptomatic UTI from asymptomatic bacteriuria. Absence of pyuria in diagnostic tests excludes symptomatic UTI in residents of long-term care facilities.		

Table 4. Skin, Soft Tissue, and Mucosal Infection Surveillance (SSTI) Criteria		
Syndrome	**Criteria**	**Notes/Comments**
Cellulitis, Soft Tissue, or Wound Infection	At least **1** of the following must be met: ☐ Pus present at a wound, skin, or soft tissue site ☐ New or increasing presence of at least **4** of the following signs or symptoms: ☐ Heat at the affected site ☐ Redness at the affected site ☐ Swelling at the affected site ☐ Tenderness at the affected site ☐ Serous drainage at the affected site ☐ One constitutional criterion (Table 1)	Presence of organisms cultured from the surface (e.g., superficial swab sample) of a wound is not sufficient evidence that the wound is infected. More than 1 resident with Streptococcal skin infection from the same serogroup (e.g., Group A, B, C, G) in a long-term care facility may indicate an outbreak
Scabies	**Both** of the following must be met: ☐ A maculopapular and/or itching rash **AND** ☐ At least **1** of the following: ☐ Physician diagnosis ☐ Laboratory confirmed scraping or biopsy ☐ Epidemiological link to a laboratory confirmed case of scabies	An epidemiological link to a case can be considered if there is evidence of geographic proximity in the facility, temporal relationship to the onset of symptoms, or evidence of common source or exposure (i.e., shared caregiver). Care must be taken to rule out rashes due to skin irritation, allergic reactions, eczema, and other noninfectious skin conditions.
Oral Candidiasis	**Both** of the following must be met: ☐ Presence of raised white patches on inflamed mucosa or plaques on oral mucosa **AND** ☐ Diagnosis by a medical or dental provider	Mucocutaneous Candida infections are usually due to underlying clinical conditions such as poorly controlled diabetes or severe immunosuppression. Although they are not transmissible infections in the healthcare setting, they can be a marker for increased antibiotic exposure.
Fungal Skin Infections	**Both** of the following must be met: ☐ Characteristic rash or lesions **AND** ☐ Either medical provider diagnosis or laboratory confirmation	Dermatophytes have been known to cause occasional infections and rare outbreaks in the long-term care facility setting.
Herpes Simplex (HSV) Infection	**Both** of the following must be met: ☐ A vesicular rash **AND** ☐ Either physician diagnosis or laboratory confirmation	Reactivation of herpes simplex ("cold sores") is not considered a healthcare-associated infection. Primary herpesvirus skin infections are very uncommon in a long-term care facility except in pediatric populations, where it should be considered healthcare associated.
Varicella Zoster (VZV) Infection	**Both** of the following must be met: ☐ A vesicular rash **AND** ☐ Either physician diagnosis or laboratory confirmation	Reactivation of VZV ("Shingles") is not considered a healthcare-associated infection. Primary VZV infections ("Chickenpox") are very uncommon in a long-term care facility except in pediatric populations, where it should be considered healthcare associated.
Conjunctivitis	At least **1** of the following must be met: ☐ Pus appearing from 1 or both eyes, present for at least 24 hours. ☐ New or increased conjunctival erythema, with or without itching ☐ New or increased conjunctival pain, present for at least 24 hours	Conjunctivitis ('pink eye") symptoms should not be due to allergic reaction or trauma.
Notes: For wound infections related to surgical procedures, long-term care facilities should use the CDC's National Healthcare Safety Network (NHSN) Surgical Site Infection (SSI) criteria and report these infections back to the institution where the original surgery was performed.		

Table 5. Gastrointestinal (GI) Tract Infection Surveillance Criteria		
Syndrome	**Criteria**	**Notes/Comments**
Gastroenteritis	At least **1** of the following must be met: ☐ Diarrhea (3 or more liquid or watery stools above what is normal for a resident within a 24hr period) ☐ Vomiting (2 or more episodes in a 24hr period) ☐ **Both** of the following signs or symptoms ☐ A stool specimen testing positive for a pathogen (e.g., Salmonella, Shigella, E coli O157:H7, Campylobacter species, rotavirus) ***AND*** ☐ At least **1** of the following: ☐ Nausea ☐ Vomiting ☐ Abdominal pain or tenderness ☐ Diarrhea	Care must be taken to exclude noninfectious cases of symptoms. For instance, new medications may cause diarrhea, nausea, or vomiting; initiations of new enteral feeding may be associated with diarrhea; and nausea or vomiting may be associated with gallbladder disease. 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)
Norovirus Gastroenteritis	**Both** of the following must be met: ☐ At least **1** of the following: ☐ Diarrhea (3 or more liquid or watery stools above what is normal for the resident within a 24hr period. ☐ Vomiting (2 or more episodes within a 24hr period) **AND** ☐ A stool specimen for which norovirus is positively detected by electron microscopy, enzyme immunoassay, or molecular diagnostic testing such as polymerase chain reaction (PCR)	In the absence of laboratory confirmation, an outbreak (2 or more cases occurring in a long-term care facility) of acute gastroenteritis due to norovirus infection may be assumed to be present if all of the following Kaplan Criteria are present: 1. Vomiting in more than half of the affected persons 2. A mean/median incubation period of 24-48hrs 3. A mean/median duration of illness of 12-60hrs 4. No bacterial pathogen is identified in stool culture.
Clostridioides difficile Infection (CDI)	**Both** of the following must be met: ☐ *One* of the following: ☐ Diarrhea (3 or more liquid or watery stools above what is normal for the resident within a 24hr period) ***OR*** ☐ Presence of toxic megacolon (abnormal dilatation of the large bowel documented on radiograph) **AND** ☐ *One* of the following: ☐ A stool sample yields a positive laboratory test result from C difficile toxin A and/or B, or a toxin-producing C difficile isolate is identified from a stool sample culture or by molecular diagnostic test such as PCR ***OR*** ☐ Pseudomembranous colitis is identified during endoscopic Examination, surgery, or in histopathologic examination of a biopsy specimen.	A "primary episode" of CDI is defined as one that has occurred within any previous history of CDI or that has occurred >8 wks after the onset of a previous episode of CDI. A "recurrent episode" of CDI is defined as an episode of CDI that occurs within 8 wks after the onset of a previous episode, provided that the symptoms from the previous episode have resolved. Individuals previously infected with C difficile may continue to remain colonized even after symptoms resolve. In the setting of an outbreak of GI infection, individuals could have positive test results for the presence of C difficile because of ongoing colonization and also be coinfected with another pathogen. It is important that other surveillance criteria be used to differentiate infections in this situation.

Adapted from:
Stone, et al. Surveillance Definitions of Infections in Long-Term Care Facilities – Revisiting the McGeer Criteria; ICHE 2012