

## A Synopsis of McGeer's Definitions of Infection

<b>Constitutional Criteria in Residents of Long-Term Care Facilities (LTCFs)</b>
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- A. Fever**
  - 1. Single oral temperature  $>37.8^{\circ}\text{C}$  ( $>100^{\circ}\text{F}$ )  
OR
  - 2. Repeated oral temperatures  $>37.2^{\circ}\text{C}$  ( $99^{\circ}\text{F}$ ) or rectal temperatures  $>37.5^{\circ}\text{C}$  ( $99.5^{\circ}\text{F}$ )  
OR
  - 3. Single temperature  $>1.1^{\circ}\text{C}$  ( $2^{\circ}\text{F}$ ) over baseline from any site (oral, tympanic, axillary)
  
- B. Leukocytosis**
  - 1. Neutrophilia ( $>14,000$  leukocytes/ $\text{mm}^3$ )  
OR
  - 2. Left shift ( $>6\%$  bands or  $\geq 1,500$  bands/ $\text{mm}^3$ )
  
- C. Acute change in mental status from baseline (all criteria must be present; see Table 3)**
  - 1. Acute onset
  - 2. Fluctuating course
  - 3. Inattention  
AND
  - 4. Either disorganized thinking or altered level of consciousness
  
- D. Acute functional decline**
  - 1. A new 3-point increase in total activities of daily living (ADL) score (range, 0-28) from baseline, based on the following 7 ADL items, each scored from 0 (independent) to 4 (total dependence)<sup>14</sup>
    - a. Bed mobility
    - b. Transfer
    - c. Locomotion within LTCF
    - d. Dressing
    - e. Toilet use
    - f. Personal hygiene
    - g. Eating

<b>Confusion Assessment Method</b>	
<b>Acute Onset</b>	<b>Evidence of acute change in resident's mental status from baseline</b>
<b>Fluctuating</b>	<b>Behavior fluctuating (e.g., coming and going or changing in severity during assessment)</b>
<b>Inattention</b>	<b>Resident has difficulty focusing attention (e.g., unable to keep track of disc easily distracted)</b>
<b>Disorganized thinking</b>	<b>Resident's thinking is incoherent (e.g., rambling conversation, unclear flow unpredictable switches in subject)</b>
<b>Altered level of consciousness</b>	<b>Resident's level of consciousness is described as different from baseline (e. alert, sleepy, drowsy, difficult to arouse, nonresponsive.</b>

## Respiratory Tract Infections (RTIs)

- A. Common cold syndrome or pharyngitis (at least 2 criteria must be present)**
  - 1. Runny nose or sneezing
  - 2. **Stuffy nose** (i.e., congestion)
  - 3. Sore throat or hoarseness of difficulty in swallowing
  - 4. Dry cough
  - 5. Swollen or tender glands in the neck (cervical lymphadenopathy)
  
- B. Influenza-like illness (both criteria 1 and 2 must be present)**
  - 1. Fever
  - 2. **At least 3 of the following influenza-like illness subcriteria**
    - a. Chills
    - b. New headache or eye pain
    - c. Myalgias or body aches
    - d. Malaise or loss of appetite
    - e. Sore throat
    - f. New or increased dry cough
  
- C. Pneumonia (all 3 criteria must be present)**
  - 1. Interpretation of a chest radiograph as demonstrating pneumonia or the presence of a new infiltrate.
  - 2. **At least 1 of the following respiratory subcriteria**
    - a. New or increased cough
    - b. New or increased sputum production
    - c. O<sub>2</sub> saturation <94% on room air or a reduction in O<sub>2</sub> saturation of >3% from baseline
    - d. New or changed lung examination abnormalities
    - e. Pleuritic chest pain
    - f. Respiratory rate of  $\geq 25$  breaths/min
  - 3. **At least 1 of the constitutional criteria**
  
- D. Lower respiratory tract (bronchitis or tracheobronchitis; all 3 criteria must be present)**
  - 1. Chest radiograph not performed or negative results for pneumonia or new infiltrate
  - 2. **At least 2 of the respiratory subcriteria (a –f) listed in section C above**
  - 3. **At least 1 of the constitutional criteria**

## Urinary Tract Infections (UTIs)

- A. For residents without an indwelling catheter (both criteria 1 and 2 must be present)**
  - 1. **At least 1 of the following sign or symptom subcriteria**
    - a. Acute dysuria or acute pain, swelling or tenderness of the testes, epididymis or prostate.
    - b. Fever or leukocytosis (see Constitutional Criteria in Residents of Long Term Care Facilities) and at least 1 of the following urinary tract subcriteria
      - i. Acute costovertebral angle pain or tenderness
      - ii. Suprapubic pain
      - iii. Gross hematuria
      - iv. New or marked increase in incontinence
      - v. New or marked increase in urgency
      - vi. New or marked increase in frequency
    - c. **In the absence of fever or leukocytosis, then 2 or more of the following localizing**

**urinary tract subcriteria**

- i. Suprapubic pain
- ii. Gross hematuria
- iii. New or marked increase in incontinence
- iv. New or marked increase in urgency
- v. New or marked increase in frequency

**2. One of the following microbiologic subcriteria**

- a. At least  $10^5$  cfu/mL of no more than 2 species of microorganisms in a voided urine sample
- b. At least  $10^2$  cfu/mL of any number of organisms in a specimen collected by in-and-out catheter

**B. For residents with an indwelling catheter (both criteria 1 and 2 must be present)**

**1. At least 1 of the following sign or symptom subcriteria**

- a. Fever, rigors, or new-onset hypotension, with no alternate site of infection
- b. Either acute change in mental status or acute functional decline, with no alternate diagnosis and leukocytosis
- c. New-onset suprapubic pain or costovertebral angle pain or tenderness
- d. Purulent discharge from around the catheter or acute pain, swelling, or tenderness of the testes, epididymis, or prostate

**2. Urinary catheter specimen culture with at least  $10^5$  cfu/mL of any organism(s)**

<b>Skin, Soft Tissue and Mucosal Infections</b>
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**A. Cellulitis, soft tissue or wound infection (at least 1 of the following criteria must be present)**

1. Pus present at a wound, skin or soft tissue site
2. New or increasing presence of at least 4 of the following sign or symptom subcriteria
  - a. Heat at the affected site
  - b. Redness at the affected site
  - c. Swelling at the affected site
  - d. Tenderness or pain at the affected site
  - e. Serous drainage at the affected site
  - f. One Constitutional Criteria in Residents of Long Term Care Facilities

**B. Scabies (both criteria 1 and 2 must be present)**

1. A maculopapular and/or itching rash
2. At least 1 of the following scabies subcriteria
  - a. Physician diagnosis
  - b. Laboratory confirmation (scraping or biopsy)
  - c. Epidemiologic linkage to a case of scabies with laboratory confirmation

**C. Fungal oral or perioral and skin infections**

1. Oral candidiasis (both criteria a and b must be present)
  - a. Presence of raised white patches on inflamed mucosa or plaques on oral mucosa
  - b. Diagnosis by a medical or dental provider
2. Fungal skin infection (both criteria a and b must be present)
  - a. Characteristic rash or lesions
  - b. Either a diagnosis by a medical provider or a laboratory-confirmed fungal pathogen from a scraping or a medical biopsy

**D. Herpesvirus skin infections**

1. Herpes simplex infection (both criteria a and b must be present)

- a. A vesicular rash
    - b. Either physician diagnosis or laboratory confirmation
  - 2. Herpes zoster infection (both criteria a and b must be present)
    - a. A vesicular rash
    - b. Either physician diagnosis or laboratory confirmation
- E. Conjunctivitis (at least 1 of the following criteria must be present)
- 1. Pus appearing from 1 or both eyes, present for at least 24 hours
  - 2. New or increased conjunctival erythema, with or without itching
  - 3. New or increased conjunctival pain, present for at least 24 hours

<b>Gastrointestinal (GI) Tract Infections</b>
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- A. Gastroenteritis (at least 1 of the following criteria must be present)
- 1. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24 hour period
  - 2. Vomiting: 2 or more episodes in a 24 hour period
  - 3. Both of the following sign or symptom subcriteria
    - a. A stool specimen testing positive for a pathogen (eg, *Salmonella*, *Shigella*, *Escherichia coli* O157 : H7, *Campylobacter species*, rotavirus)
    - b. At least 1 of the following GI subcriteria
      - i. Nausea
      - ii. Vomiting
      - iii. Abdominal pain or tenderness
      - iv. Diarrhea
- B. Norovirus gastroenteritis (both criteria 1 and 2 must be present)
- 1. At least 1 of the following GI subcriteria
    - a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24 hour period
    - b. Vomiting: 2 or more episodes of in a 24 hour period
  - 2. A stool specimen for which norovirus is positively detected by electron microscopy, enzyme immunoassay, or molecular diagnostic testing such as polymerase chain reaction (PCR)
- C. *Colstridium difficile* infection (both criteria 1 and 2 must be present)
- 1. One of the following GI subcriteria
    - a. Diarrhea: 3 or more liquid or watery stools above what is normal for the resident within a 24 hour period
    - b. Presence of toxic megacolon (abnormal dilation of the large bowel, documented radiologically)
  - 2. One of the following diagnostic subcriteria
    - a. A stool sample yields a positive laboratory test result for *C. difficile* toxin A or B, or a toxin-producing *C. difficile* organism is identified from a stool sample culture or by a molecular diagnostic test such as PCR
    - b. Pseudomembranous colitis is identified during endoscopic examination or surgery or in histopathologic examination of a biopsy specimen

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