

# Case Study

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## Infection Indicators in Older Adults

This ACE (Acute Care for the Elderly) Card™ on infection indicators in older adults was developed by Dr. Michael Malone and Dr. Soryal Soryal at Aurora Health Care in Milwaukee, WI. These geriatric care reminder cards will be published in *MPM* as resources to help clinicians manage common conditions that plague elderly patients.

The complete series of cards can be ordered from

*A 79-year old woman was seen in the emergency department (ED) complaining of coughing pink sputum, generalized weakness, and new left-sided chest pain of 3 days' duration. She had recently started lifting weights at an exercise program. She denied symptoms of dyspnea, diaphoresis, fever, or nausea and vomiting. On examination, she was afebrile; rales were auscultated in her left lung field. A chest x-ray revealed a left lower lobe infiltrate. The pulse oximetry on room air with ambulation was 89%. White blood cell (WBC) count was 22,000 with 10% bands. The ED physician reviewed the ACE card as she initially developed her plan of care.*

*MPM*

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### ACE Cards™

#### Useful Indicators of Infection in Older Adult

Acute Care for Elders (ACE) Program  
Aurora Health Care/  
UW School of Medicine & Public Health

**Background:**

- Making a diagnosis of an infection in a senior is difficult.
- Seniors may be less likely to present with classic findings and are more likely to present with atypical findings.
- There may be a delay in recognition of their findings until the late stages of their medical illness.
- The patient or their caregiver may attribute the symptoms to normal aging.
- There can be multiple acute illnesses occurring at the same time (urinary tract infection with new fall and hip fracture).
- Many patients are unable to communicate their symptoms accurately.
- Seniors may be more susceptible to infection because of: multiple chronic illnesses; medications which may block immune response; changes in their immune system.
- Seniors may present with infection precipitating a deterioration of their chronic medical condition (exacerbation of COPD, fall in a patient with Parkinson's Disease, delirium for a patient with Alzheimer's Disease).
- The most common sites of infection of older adults are respiratory tract, urinary tract, and skin/soft tissues.
- Clinicians must maintain a high level of clinical suspicion for infection.

**Consider infection when an older person presents with:**

- An acute change in their ability to perform ADL's
- Fever of  $\geq 100^{\circ}\text{F}$  ( $37.8^{\circ}\text{C}$ ), or hypothermia
- An increase over baseline temperature of  $2.4^{\circ}\text{F}$  ( $1.4^{\circ}\text{C}$ )
- Tachycardia
- Dehydration
- Confusion
- Falls
- White blood cell count  $> 14,000$  cells/mm<sup>3</sup>
- Neutrophils  $\geq 90\%$
- Total band (%) count  $> 6\%$
- Total band absolute count  $\geq 1500$  cell/mm<sup>3</sup>

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### ACE Cards™

#### Useful Indicators of Infection in Older Adult

**Common Presenting Symptoms for Older Persons with:**

**Lower Respiratory Infections**

- Cough/dyspnea
- Mucoid sputum production
- Tachycardia
- Abdominal pain/"failure to thrive"
- Malaise
- Headache
- Chest pain
- Generalized weakness

} Bronchitis and Pneumonia

- Persistent cough despite antibiotics
- Weight loss
- Low grade fever

} Tuberculosis

**Urinary Tract Infections**

- New onset of urine incontinence
- Dysuria
- Urinary frequency/urgency
- Flank pain
- Weakness
- Dehydration

**Skin & Soft Tissue Infections**

- Erythema
- Drainage of foul smelling secretions
- Warm to touch
- Pain/tenderness
- Remember to look for infected pressure ulcers over bony prominences

Reference: Bradley SF. Infections. Duthie E, Katz P, Malone M, Eds. Practice of Geriatrics, 4<sup>th</sup> Edition. Philadelphia: Elsevier, in press.

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