



# INFECTION MANAGEMENT AND antibiotic stewardship

**Hot Topic:**

## Nonspecific Symptoms in Persons with Cognitive Impairment

Philip Sloane, MD, MPH

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**Happy  
Valentine's Day**

**Thank you for  
joining!**



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# Session Objectives

1. Define nonspecific symptoms and list some of the common ones that arise in nursing home residents.
2. Understand why nonspecific symptoms are especially challenging in residents with dementia.
3. Understand how and why nonspecific symptoms often lead to a “knee jerk” assumption that they indicate an infection.
4. Present a strategy for systematically addressing nonspecific symptoms in persons with cognitive impairment.

# What Do We Mean by Nonspecific Symptoms?

Symptoms that don't relate to any particular body part or system

## Common Examples in Nursing Home Residents

- ▶ Decreased activity
- ▶ Not eating or drinking
- ▶ Falling
- ▶ Not taking care of self
- ▶ Disturbed sleep at night
- ▶ Sleeping more than usual during the day
- ▶ Altered mental status
- ▶ Hollering / screaming

Source: Sloane, et al, J Am Geriatr Soc 65:808–814, 2017

# Case #1



**Mrs. White**

- 84-year-old with arthritis and moderate dementia
- Uncooperative with dressing
- Irritable
- Usually a good eater; ate only half of breakfast
- Says she's tired and wants to go back to bed

# Case #2

- 34-year-old nurse
- Divorced, alone this weekend
- You were going to have lunch with her, but she cancels
- Low energy; not hungry
- Doesn't want to get dressed
- Says she doesn't want to deal with people today



**Ms. Blue**

# Both Have Similar Nonspecific Symptoms \*



**Mrs. White**

- 84-year-old with arthritis and moderate dementia
- Uncooperative with dressing
- Irritable
- Eats half of breakfast
- Says she's tired



**Ms. Blue**

- 34-year-old, divorced, alone this weekend
- Low energy; not hungry
- Doesn't want to deal with people
- Doesn't want to get dressed



# What You Might Wonder about Your Friend Ms. Blue

- ▶ Coming down with a virus?
- ▶ Too much to drink last night?
- ▶ Didn't sleep well?
- ▶ Pain?
- ▶ Stress?
- ▶ Depression?
- ▶ Premenstrual?
- ▶ Pregnant?



- 34-year-old
- Divorced, alone this weekend
- Low energy; not hungry
- Doesn't want to deal with people
- Doesn't want to get dressed

# What the Nursing Supervisor Says About Ms. White

**Probably the urine.  
Needs an antibiotic.**



**This is an old prejudice  
that has been proven  
wrong by clinical research.  
Only a small percentage of  
cases of nonspecific  
symptoms are caused by  
infection.**

# What else could be causing Ms. White's fatigue, irritability, and poor appetite?



**Mrs. White**

- ▶ Coming down with a virus?
- ▶ Didn't sleep well?
- ▶ Pain?
- ▶ Stress?
- ▶ Depression?
- ▶ Constipation?
- ▶ New medical problem (e.g., UTI, TIA)?
- ▶ Dehydration

# Loeb Minimum Criteria for Starting Antibiotics for Suspected UTI in NH Residents Mainly Include Organ-Specific Symptoms \*

**Dysuria**

OR

**Fever** along with at least one of the following:

- New or worsening urinary urgency
- Urinary frequency
- Suprapubic pain
- Gross hematuria
- CVA tenderness
- New or worsening incontinence

*\* Loeb criteria are meant to be a minimum set of signs and symptoms which, when met, indicate that the resident likely has an infection. These are for residents without a catheter.*

# Organ-Specific Symptoms Dominate SHEA \* Guidelines for Infection Diagnosis

 Organ system-specific symptoms

 Nonspecific symptoms

Suspected urinary tract infection	Suspected lower respiratory tract infection	Suspected skin infection
<p>A. No indwelling Foley catheter Acute dysuria alone OR temperature &gt;37.9°C AND ≥1 of following:</p> <ul style="list-style-type: none"> <li>1. New or worse frequency</li> <li>2. Urgency</li> <li>3. Costovertebral tenderness</li> <li>4. Gross hematuria</li> <li>5. Suprapubic pain</li> <li>6. <b>Mental status change</b></li> <li>7. Rigors</li> </ul> <p>B. Indwelling Foley catheter ≥1 of following:</p> <ul style="list-style-type: none"> <li>1. Temperature &gt;37.9°C</li> <li>2. Rigors</li> <li>3. <b>Mental status change</b></li> </ul>	<p>A. Temperature &gt;38.9°C ≥1 of following:</p> <ul style="list-style-type: none"> <li>1. Respiratory rate &gt;25 breaths/minute</li> <li>2. New productive cough</li> </ul> <p>B. Temperature &lt;38.9°C New productive cough AND ≥1 of the following:</p> <ul style="list-style-type: none"> <li>1. Pulse &gt;100 beats/minute</li> <li>2. Respiratory rate &gt;25 breaths/minute</li> <li>3. Rigors</li> <li>4. <b>Mental status change</b></li> </ul> <p>C. Afebrile with COPD New/increased cough with purulent sputum</p>	<p>New or increased purulent drainage OR ≥1 of the following:</p> <ul style="list-style-type: none"> <li>1. Temperature &gt;37.9°C</li> <li>2. Redness</li> <li>3. New or increased swelling</li> <li>4. Warmth</li> <li>5. <b>Tenderness</b></li> </ul>

\* Society for Healthcare Epidemiology of America

# Dementia Complicates Things

**Residents with cognitive impairment often cannot reliably report symptoms and yet diagnostic criteria often require information on symptoms.**

# Common Nonspecific Symptoms Are Not in Guidelines for a Reason

- ▶ Decreased activity
- ▶ Not eating or drinking
- ▶ Falling
- ▶ Not taking care of self
- ▶ Disturbed sleep at night
- ▶ Altered mental status
- ▶ Sleeping more than usual (e.g., during the day)
- ▶ Hollering / screaming

# Common Causes of Nonspecific Symptoms in NH Residents

## ▶ Dehydration

- ▶ Half of nursing home residents and over 2/3 of those sent to the emergency department are chronically dehydrated
- ▶ Chronic or acute-on-chronic dehydration is a very common cause of nonspecific symptoms
- ▶ It's the liter or two of fluid they got in the ER – not the antibiotic they received – that often explains why a resident returns from the ER looking better (and with a diagnosis of “UTI”)



# Common Causes of Nonspecific Symptoms in NH Residents

- ▶ Dehydration
- ▶ Medication side effect
- ▶ Coming down with a virus
- ▶ Didn't sleep well
- ▶ Pain
- ▶ Constipation
- ▶ Stress / anxiety / depression

**Good Antibiotic Stewardship  
Requires Us to be Systematic  
When Someone with Dementia  
Has Nonspecific Symptoms.**

# Have A Mental Checklist for Nonspecific Symptoms

- ✓ Assess hydration status and encourage fluids
- ✓ Review current medications
- ✓ Monitor for signs of a respiratory or GI virus
- ✓ Monitor symptoms and vital signs (especially temperature)
- ✓ Think about sleep problems
- ✓ Look for sources of pain / discomfort
- ✓ Check for constipation
- ✓ Look for sources of stress, anxiety or depression
- ✓ Use nursing interventions where appropriate

## **To Avoid Missing an Urgent Problem:**

- Depend More on Vital Signs**
- Monitor the Resident**

# Summary

- Nonspecific symptoms don't relate to one body part or system.
- They are not featured in diagnostic criteria for infections, but in persons with dementia they can overly influence decision-making.
- Because of this, in the past we've tended to have a knee-jerk reaction to blame infection, especially UTI, and this has led to antibiotic overuse.
- But, as we learned from the cases of Ms. White and Ms. Blue, many, many things can cause nonspecific symptoms.
- Best practice is to take a systematic approach to nonspecific symptoms, as something other than infection is often responsible.
- In the absence of a clear diagnosis, hydrate, mobilize and monitor

# Questions and Discussion

## Think Critically about Nonspecific Symptoms - Especially in Residents with Dementia

Nonspecific symptoms such as falls, not eating well, tiredness, weakness, altered mental status, and agitation don't relate to any particular body part or system.

In the past, we would treat for UTI, but...

Now we know that nonspecific symptoms have many causes.

Research has shown that UTI causes only a small number of nonspecific symptoms.

Consider other possibilities first.

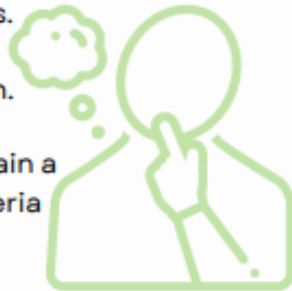
### Check for:

- \*Dehydration
- \*New Medication
- \*Respiratory infection
- \*GI Virus \*Poor Sleep
- \*Arthritis or other pain
- \*Constipation/Impaction
- \*Stress \*Anxiety \*Depression



### Mental Checklist When a Resident has Nonspecific Symptoms

- ✓ Dehydration is common: hydrate orally or parenterally.
- ✓ Review current medications, especially new ones.
- ✓ Look for signs of respiratory or GI virus.
- ✓ Check for constipation and other sources of pain.
- ✓ Look for signs of stress, anxiety, or depression.
- ✓ If the resident has a history of recurrent UTI, obtain a culture (but don't treat unless fever or Loeb criteria met).
- ✓ Monitor vital signs for abnormalities.



This approach is good clinical care and good antibiotic stewardship.

- ▶ Find session slides at <https://spice.unc.edu> → NC CLASP → nursing homes