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Recognition and Management of Sepsis in the Long-term Care Setting: An Interactive Work Group

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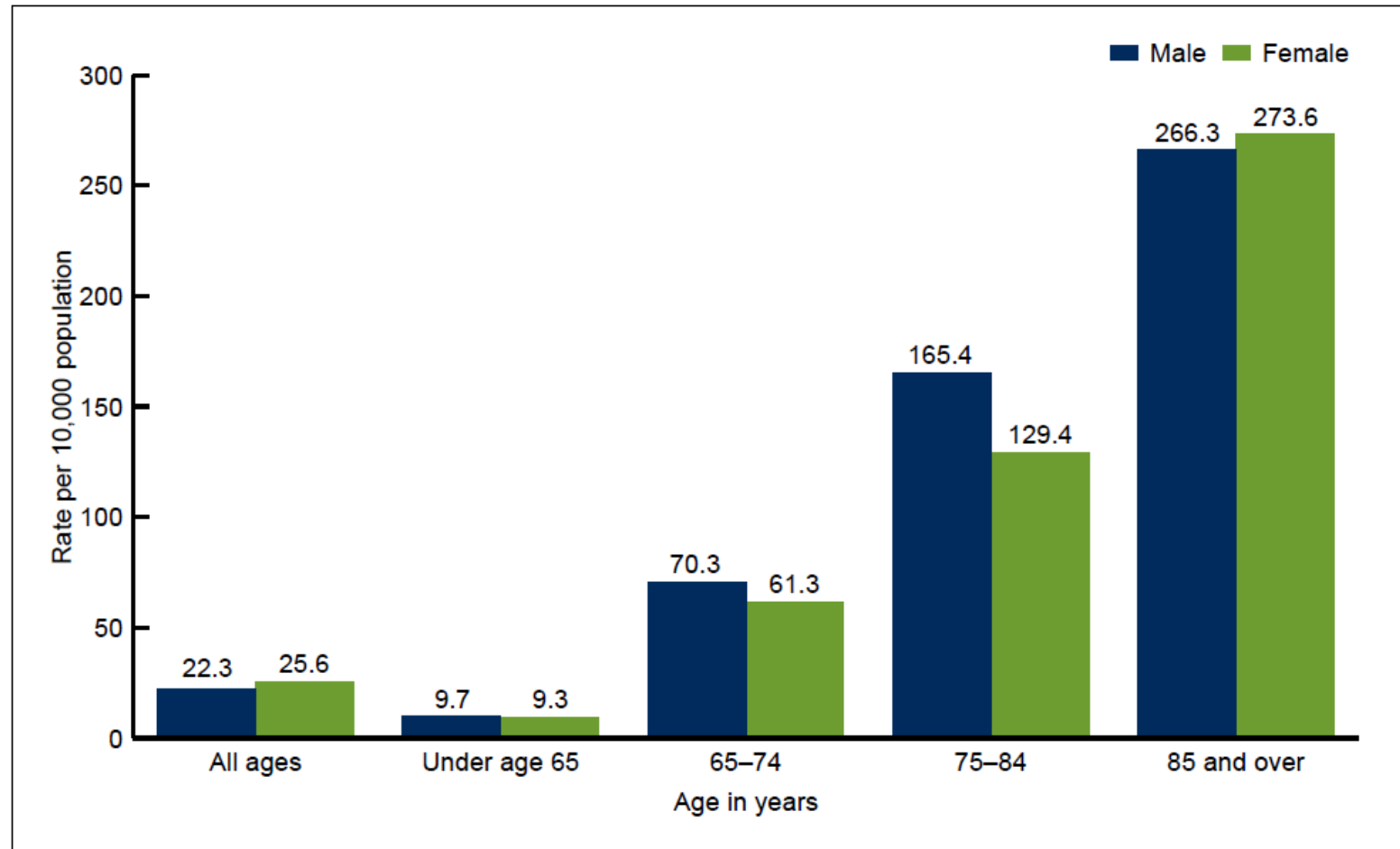
Sepsis

- Sepsis is a life-threatening condition that arises when the body's response to an infection injures its own tissues and organs.¹
 - The term is used to describe when infections get out of control and cause the body to shut down.
- Sepsis is a leading cause of death and health care spending globally.^{2,3}

1. Singer, et al. JAMA 2016;315(8) 801-810
2. Fleischmann, et al. Am J Resp Crit Care Med. 2016; 193:259-272
3. Iwashyna, et al. J Am Geriatr Soc. 2012;60:1070-1077

Hospitalization rates for sepsis or septicemia were similar for males and females and increased with age.

Figure 2. Rates of hospitalization for septicemia or sepsis, by sex and age, 2008

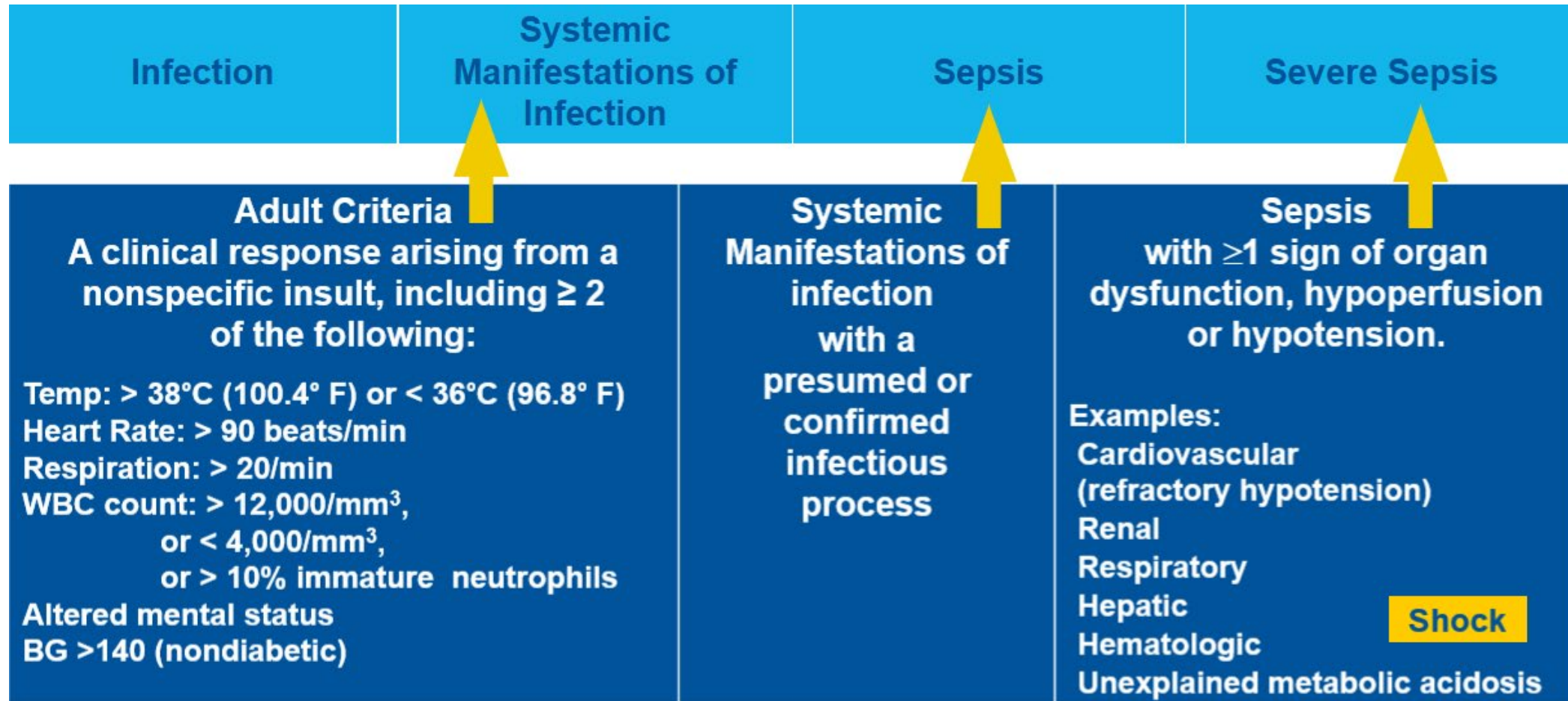


NOTES: Rates are significantly higher for males and females in each successive age group.
SOURCE: CDC/NCHS, National Hospital Discharge Survey, 2008.

Definitions, used by the Centers for Medicare & Medicaid Services (CMS) and coders

- **Infection:** a pathological process caused by invasion of normally sterile tissue, fluid, body cavity by pathogenic or potentially pathogenic micro-organisms.
- **Sepsis:** infection plus two or more systemic inflammatory response syndromes (SIRS)
- **Severe Sepsis:** infection plus two or more SIRS and new organ dysfunction
- **Septic Shock:** severe sepsis with a lactic acid greater than or equal to 4mmol/L OR continued hypotension (systolic blood pressure < 90 or 40mmHg decrease from their baseline) after initial fluid bolus (30ml/kg)

Severe sepsis: defining a disease continuum



Cornerstones of multidisciplinary management of severe sepsis

- Prevention using best-practices:
 - Hand hygiene
 - Oral care and pneumonia prevention
 - Wound/skin care
 - Catheter and urinary care
- Screening and early identification.
- Early Intervention: source control, blood cultures and broad-spectrum antibiotics.
- Protocols when to send resident for acute treatment versus what can be done in your facility.

To Save Lives...



Early identification

Assess
Assess
Assess



Early antibiotics

Broad spectrum
within one hour of
positive screen.



Early fluid resuscitation

Per facility protocol –
30ml/kg

Nursing Home Sepsis Screening Tool

Long Term Care Severe Sepsis Screening Tool

Resident name: _____
 Medical Record Number: _____
 Date/Time: _____

Directions: The screening tool is for identifying residents with sepsis. Complete the checklist upon admission, with any new suspected or confirmed infections and with any change in condition.

Section One	
Infection: Are one or more of the following present?	
<ul style="list-style-type: none"> • Currently on antibiotic therapy to treat any infection? • Clinical suspicion of infection • Pneumonia • UTI (painful urination, urgency, feels need to urinate despite empty bladder) • Abdominal pain or distension • Meningitis • Indwelling medical device • Cellulitis/septic arthritis • Chemotherapy < 6 weeks prior or recent organ/bone marrow transplant • Recent surgery 	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>If No checked in Section One - Negative screen for sepsis. Stop here. No need to proceed to Section Two. Repeat sepsis screen for any new or suspected or confirmed infections or changes in condition.</p> <p>If YES checked in Section One: Assess Vital Signs and PROCEED TO SECTION TWO</p>	
Section Two	
Are there two or more of the following signs of sepsis present?	
Temperature greater than or equal to 100.4°F or less than or equal to 96.8°F	<input type="checkbox"/> Yes <input type="checkbox"/> No
Heart rate greater than 90 beats/minute	<input type="checkbox"/> Yes <input type="checkbox"/> No
Respiratory rate greater than 20 breaths/minute	<input type="checkbox"/> Yes <input type="checkbox"/> No
Systolic blood pressure (BP) is less than 100	<input type="checkbox"/> Yes <input type="checkbox"/> No
New onset mental status changes (mild confusion or disorientation)	<input type="checkbox"/> Yes <input type="checkbox"/> No

<p>If less than two items are checked YES in Section Two - Negative screen for sepsis. Stop here. No need to proceed to Section Three. Repeat sepsis screen for any new or suspected or confirmed infections or changes in condition.</p> <p>If two or more items are checked YES in Section Two, resident screens positive for POSSIBLE SEPSIS.</p>	
SECTION TWO ACTION STEPS	
<ol style="list-style-type: none"> 1. Check Pulse Oximetry (SaO₂) 2. Review advance directives and code status 3. PROCEED TO SECTION THREE to assess for signs of severe sepsis 	
Section Three	
Renal dysfunction: dark, concentrated and little to no urine	<input type="checkbox"/> Yes <input type="checkbox"/> No
Cardiovascular dysfunction: Systolic BP less than 90 mmHg or 40 mmHg drop below baseline systolic	<input type="checkbox"/> Yes <input type="checkbox"/> No
Respiratory dysfunction: Pulse oximetry (SaO ₂) less than 90% and/or New or increasing need for Oxygen to keep sat >90% or prevent dyspnea	<input type="checkbox"/> Yes <input type="checkbox"/> No
Neurologic dysfunction: New onset severe mental status change or decreased level of consciousness (severe confusion or agitation/severe lethargy or difficulty waking up)	<input type="checkbox"/> Yes <input type="checkbox"/> No
Perfusion dysfunction: Mottled Skin (patchy red/purple discoloration on trunk or extremities) or Cap Refill greater than or equal to 3 seconds (while hand above heart level)	<input type="checkbox"/> Yes <input type="checkbox"/> No
<p>SECTION THREE ACTION STEPS: If one or more items is checked YES in Section Three- resident screens positive for SEVERE SEPSIS!</p> <ol style="list-style-type: none"> 1. Notify physician of "possible severe sepsis" and positive findings 2. Notify the resident's representative of the situation and need for transport if necessary 3. Follow your facility's policy and procedure regarding potential resident transfer 	

Next Steps

Step	Who? When?	Status
1. Get team together to create early recognition process		
2. Get medical staff support for screening and early intervention		
3. Develop screening tool/process <ul style="list-style-type: none">• Define frequency		
4. Define content for your staff education, who will provide education and implementation plan for the program		
5. Prioritize sepsis as a performance improvement project with oversight by the QAPI program		
6. Evaluate screening audit: define outcome and process metrics		
7. Develop an ongoing sustainability plan to hardwire the sepsis program		

Questions?

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[Nursing Home Sepsis Affinity Group - Connect](#)