Community-Acquired Pneumonia in the Emergency Department Setting

Background on Community-Acquired Pneumonia

Community-acquired pneumonia (CAP) is the eighth leading cause of death in the United States.[1] Approximately 6 million cases are reported annually, resulting in an estimated 4.2 million ambulatory care visits.[1] Adults age 65 or older have four times the incidence of CAP as other age groups; they also have higher rates of hospitalization and are more likely to die from CAP.[2]

CAP Diagnosis and Assessment with the CURB-65 Tool

The Infectious Diseases Society of America (IDSA) and the American Thoracic Society (ATS) recommend two validated tools for assessing the severity of CAP during the diagnostic process.[3] The most actionable tool in an emergency department setting is the CURB-65 tool. This tool calculates a severity score and recommended site of care based on four readily available clinical data elements commonly collected for patients presenting with symptoms suggestive of pneumonia:

Confusion + Uremia + Respiratory rate + low Blood pressure + age 65 years or older.

*Note that the "U" (Uremia) is an optional component of this tool that can be included when the appropriate laboratory test is available

Why Use the CAP CDS Tool?

The benefits of integrating the CAP CDS tool into your clinical practice when seeing patients presenting with symptoms of pneumonia include:

- Support accurate appraisal of pneumonia severity
- Provide site-of-care recommendations to assist in clinical decision-making
- Offer easy access to evidence-based guidelines on management via hyperlinks

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[1]FastStats: Pneumonia. Centers for Disease Control and Prevention. Centers for Disease Control and Prevention (CDC). http://www.cdc.gov/nchs/data/nvsr/nvsr64/nvsr64_02.pdf. Accessed January 10, 2017.

[2]Stupka, J., Mortensen, E., Anzueto, A., et. al. Community-acquired pneumonia in elderly patients. Aging Health. 2009;5 (6): 763-774. PMID: 21721597

[3]Mandell, L., Wunderink, R., Anzueto, A., et. al. Infectious Diseases Society of America/American Thoracic Society consensus guidelines on the management of community-acquired pneumonia in adults. Clinical Infectious Diseases. 2007; 44, S27-S72. http://www.thoracic.org/statements/resources/mtpi/idsaats-cap.pdf.

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Integrating the CAP CDS Tool into Your Workflow

The CAP CDS tool has been designed to integrate the CURB-65 assessment into your workflow when diagnosing patients presenting with symptoms consistent with pneumonia. The tool will appear as an interruptive alert after the chest x-ray is marked as "complete" by the radiology technician.

The tool will calculate a severity score and provide a recommendation for site of care: (home or hospital) based on the 30-day mortality associated with the score.

Any clinical presentation of:	**Confusion** **Urea > 7 mmol/l** **Respiratory rate ≥ 30/min** **Blood pressure (SBP < 90 mmHg or DBP ≤ 60 mmHg)** **Age ≥ 65 years**		
Score:	**0 or 1**	**2**	**3 or more**
Mortality risk & treatment options	**LOW MORTALITY RISK** **Likely suitable for home treatment**	**INTERMEDIATE MORTALITY RISK** **Likely needs hospital referral and further assessment**	**HIGH MORTALITY RISK** **Urgent hospital admission and immediate treatment**

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