

Supplemental Materials

DEFINITION OF PNEUMONIA

The following is from the American College of Surgeons National Surgical Quality Improvement Program.¹⁰

Patients with pneumonia must meet criteria from both Radiology and Signs, Symptoms, Laboratory sections listed as follows:

RADIOLOGY

- One definitive chest radiologic examination (radiograph or computed tomography)* with at least one of the following:
- New or progressive and persistent infiltrate,
- consolidation or opacity, or
- cavitation.

Note: In patients with underlying pulmonary or cardiac disease (eg, respiratory distress syndrome, bronchopulmonary dysplasia, pulmonary edema, or chronic obstructive pulmonary disease), 2 or more serial chest radiologic examinations (radiograph or computed tomography) are required. (Serial radiologic

examinations should be taken no less than 12 hours apart, but not more than 7 days apart. The occurrence should be assigned on the date the patient first met all of the criteria of the definition (ie, if the patient meets all pneumonia criteria on the day of the first radiograph, assign this date to the occurrence. Do not assign the date of the occurrence to when the second serial radiograph was performed).

SIGNS, SYMPTOMS, LABORATORY

For any patient, at least one of the following:

- Fever ($>38^{\circ}\text{C}$ or $>100.4^{\circ}\text{F}$) with no other recognized cause;
- leukopenia (<4000 white blood cells $/\text{mm}^3$) or leukocytosis ($\geq 12\,000$ WBC/ mm^3);
- for adults ≥ 70 years old, altered mental status with no other recognized cause.

And at least one of the following:

- 5% Bronchoalveolar lavage-obtained cells contain intracellu-

lar bacteria on direct microscopic examination (eg, Gram-stain),

- positive growth in blood culture not related to another source of infection,
- positive growth in culture of pleural fluid,
- positive quantitative culture from minimally contaminated lower respiratory tract specimen (eg, bronchoalveolar lavage or protected specimen brushing).

Or at least 2 of the following:

- New onset of purulent sputum, or change in character of sputum, or increased respiratory secretions, or increased suctioning requirements;
- new onset or worsening cough, or dyspnea, or tachypnea;
- rales or rhonchi;
- worsening gas exchange (eg, O_2 desaturations (eg, $\text{PaO}_2/\text{fraction of inspired oxygen} \leq 240$), increased oxygen requirements, or increased ventilator demand).