

# RAVEN

Reduce **AV**oidable Hospitalizations using **E**vidence-based interventions for **N**ursing facilities in Pennsylvania

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## Reference Guide for Diagnostic Criteria & Treatment Recommendations

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**UPMC** | **SENIOR  
SERVICES**

## Pneumonia

### Clinical Criteria

#### Pneumonia

##### Qualifying Diagnosis

- Chest x-ray confirmation of a **new** pulmonary infiltrate

##### **OR TWO or more of the following:**

- Fever  $\geq 100^{\circ}\text{F}$  (oral) or two degrees above baseline
- Oxygen saturation level  $\leq 92\%$  on room air or on usual O<sub>2</sub> settings in patients with chronic oxygen requirements
- Respiratory rate  $\geq 24$  breaths/minute
- Evidence of focal pulmonary consolidation on exam, including rales, rhonchi, decreased breath sounds, or dullness to percussion

**Symptomatic Guidance:** Productive cough, increased functional decline, increase dependence in ADLs, reduced oral intake, or increased lethargy, dyspnea.

**Treatment:** Antibiotic therapy (oral or parenteral), hydration (oral, sc, or IV), oxygen therapy, and/or bronchodilator treatments. Additional nursing supervision for symptom assessment and management (vital sign monitoring, lab/diagnostic test coordination, and reporting)

## Congestive Heart Failure

### Clinical Criteria

#### Congestive Heart Failure

##### Qualifying Diagnosis

- Chest x-ray confirmation of a **new** pulmonary congestion, edema, or bilateral pleural effusions

##### **ORTWO or more of the following:**

- Oxygen saturation level  $\leq 92\%$  on room air or on usual O<sub>2</sub> settings in patients with chronic oxygen requirements
- New or worsening pulmonary rales
- New or worsening edema
- New or increased jugulo-venous distension
- In the absence of renal failure, BNP  $\geq 100$  pg/ml or NTproBNP  $\geq 900$  pg/ml (GFR  $\leq 60$  ml/min/1.73m<sup>2</sup>)
- Weight gain of 3 lbs or more in one day or 5 lbs or more in one week

**Symptomatic Guidance:** Acute onset of dyspnea (shortness of breath (SOB)), orthopnea (SOB when lying down), paroxysmal nocturnal dyspnea (SOB waking the patient at night), new or increased leg or presacral edema, and/or unexpected weight gain.

**Treatment:** Increased diuretic therapy, obtain EKG to rule out cardiac ischemia or arrhythmias such as atrial fibrillation that could precipitate heart failure, vital sign or cardiac monitoring every shift, daily weights, oxygen therapy, low salt diet, and review of medications, including beta-blockers, ACE inhibitors, ARBS, aspirin, spironolactone, and statins, monitoring renal function, laboratory and radiologic monitoring. If new diagnosis, additional tests may be needed to detect cause.

## COPD/Asthma

### Clinical Criteria

#### COPD/Asthma

##### Qualifying Diagnosis

- Known diagnosis of COPD/Asthma or CXR showing COPD with hyperinflated lungs and no infiltrates

##### **AND TWO or more of the following:**

- New or worsening: wheezing, cough, shortness of breath, or sputum production
- Oxygen saturation level  $\leq 92\%$  on room air or on usual O<sub>2</sub> settings in patients with chronic oxygen requirements
- Acute reduction in Peak Flow or FEV<sub>1</sub> on spirometry
- Respiratory rate  $\geq 24$  breaths/minute

**Treatment:** Increased Bronchodilator therapy, usually with a nebulizer, IV or oral steroids, oxygen, and sometimes antibiotics.

## Skin Infection

### Clinical Criteria

#### Skin Infection

##### Qualifying Diagnosis

- Infection with **new** onset of warm and/or erythematous and/or swollen/indurated skin requiring oral or parenteral antibiotic therapy or antiviral therapy
- If associated with an existing skin ulcer or wound there is an acute worsening with **new** signs of infection such as purulence, exudate, and/or induration

##### **AND ONE or more of the following two:**

- Fever  $\geq 100^{\circ}$  F (oral) or two degrees above baseline
- White blood cell count  $\geq 12,000$

**Treatment:** Frequent turning, nutritional assessment and/or supplementation, at least daily wound inspection and/or periodic wound debridement, cleansing, dressing changes, and antibiotics (oral or parenteral) or antiviral therapy.

## Fluid or Electrolyte Disorder

### Clinical Criteria

#### Fluid or Electrolyte Disorder

##### Qualifying Diagnosis

- Any acute change in condition

##### **AND TWO or more of the following:**

- Reduced urine output in 24 hours or reduced oral intake by approximately 25% or more of average intake for 3 consecutive days
- New onset of Systolic BP  $\leq 100$  mmHg (lying, sitting or standing)
- 20% increase in Blood Urea nitrogen (e.g. from 20 to 24) OR 20% increase in Serum Creatinine (e.g. from 1.0 to 1.2)
- Sodium  $\geq 145$  or  $\leq 135$
- Orthostatic drop in systolic BP of 20 mmHg or more going from supine to sitting or standing

**Treatment:** Parenteral (IV or clysis) fluids, lab/diagnostic test coordination and reporting, and careful evaluation for the underlying cause, including assessment of oral intake, medications (diuretics or renal toxins), infection, shock, heart failure, and kidney failure.

## Urinary Tract Infection

### Clinical Criteria

#### Urinary Tract Infection

##### Qualifying Diagnosis

- $\geq 100,000$  colonies of bacteria growing in the urine with no more than 2 species of microorganisms

##### AND ONE or more of the following:

- Fever  $\geq 100^{\circ}\text{F}$  (oral) or two degrees above baseline
- Peripheral WBC count  $\geq 12,000$
- In the case of catheter-associated UTIs, acute back pain, flank pain, epididymis pain, purulent exudate from catheter insertion site, or prostate pain
- Symptoms of dysuria, new or increased urinary frequency, new or increased urinary incontinence, gross hematuria, or acute costovertebral angle pain or tenderness

**Symptomatic Guidance:** Dysuria, frequency, new incontinence, hematuria, CVA tenderness.

**Treatment:** Oral or parenteral antibiotics, lab/diagnostic test coordination and reporting, monitoring and management of urinary frequency, incontinence, agitation and other adverse effects. Evaluation for prostatitis with prostate exam in males.

## Clinical Change in Condition Criteria

### Nursing Documentation Suggestions

Pneumonia		COPD/Asthma		CHF	
<ul style="list-style-type: none"> <li>· <b>Orientation</b></li> <li>· <b>Vital signs</b></li> <li>· <b>Pulse ox%</b></li> <li>· <b>Lung sounds</b></li> <li>· <b>Cough</b></li> <li>· <b>SOB</b> (rest or exertion)</li> <li>· <b>O<sub>2</sub></b></li> <li>· <b>Mobility</b></li> </ul>	<ul style="list-style-type: none"> <li>· <i>Response to:</i> meds (antibiotics, nebs, etc.)</li> <li>· <b>Appetite</b></li> <li>· <b>Elimination</b></li> <li>· <b>Complaints/Comfort</b></li> </ul>	<ul style="list-style-type: none"> <li>· <b>Orientation</b></li> <li>· <b>Vital signs</b></li> <li>· <b>Pulse ox%</b></li> <li>· <b>Lung sounds</b></li> <li>· <b>Cough</b></li> <li>· <b>SOB</b> (rest or exertion)</li> </ul>	<ul style="list-style-type: none"> <li>· <i>Response to:</i> meds (antibiotics, nebs, etc.)</li> <li>· <b>O<sub>2</sub></b></li> <li>· <b>Mobility</b></li> <li>· <b>Appetite</b></li> <li>· <b>Elimination</b></li> <li>· <b>Complaints/Comfort</b></li> </ul>	<ul style="list-style-type: none"> <li>· <b>Orientation</b></li> <li>· <b>Vital signs</b></li> <li>· <b>Pulse ox%</b></li> <li>· <b>Weight</b></li> <li>· <b>Lung sounds</b></li> <li>· <b>Cough</b></li> <li>· <b>SOB</b> (rest or exertion)</li> <li>· <b>Edema</b></li> </ul>	<ul style="list-style-type: none"> <li>· <i>Response to:</i> meds (antibiotics, nebs, etc.)</li> <li>· <b>O<sub>2</sub></b></li> <li>· <b>Mobility</b></li> <li>· <b>Appetite</b></li> <li>· <b>Elimination</b></li> <li>· <b>Complaints/Comfort</b></li> </ul>
Skin Condition		Fluid or Electrolyte Disorder		UTI	
<ul style="list-style-type: none"> <li>· <b>Orientation</b></li> <li>· <b>Vital signs</b></li> <li>· <i>Describe area:</i> size, color, sensitivity, movement, skin integrity, drainage, pain.</li> </ul>	<ul style="list-style-type: none"> <li>· <i>Response to:</i> meds/treatments (antibiotics, dressing changes, etc.)</li> <li>· <b>Complaints/Comfort</b></li> </ul>	<ul style="list-style-type: none"> <li>· <b>Orientation</b></li> <li>· <b>Vital signs</b></li> <li>· <b>Orthostats</b></li> <li>· <b>Weight</b></li> <li>· <b>Mobility</b></li> <li>· <b>Appetite</b></li> <li>· <b>I/O</b></li> </ul>	<ul style="list-style-type: none"> <li>· <i>Response to:</i> hydration (IVF)</li> <li>· <b>Elimination</b></li> <li>· <b>Complaints/Comfort</b></li> </ul>	<ul style="list-style-type: none"> <li>· <b>Orientation</b></li> <li>· <b>Vital signs</b></li> <li>· <b>Mobility</b></li> <li>· <b>Appetite</b></li> <li>· <b>Elimination</b></li> <li>· <b>I/O</b></li> </ul>	<ul style="list-style-type: none"> <li>· <i>Response to:</i> meds (antibiotics, etc.)</li> <li>· <b>Complaints/Comfort</b></li> </ul>



## Clinical Change in Condition Criteria

Please contact your local Medicare Administrative Contractor (MAC) with any questions related to billing, billing statements, or other related questions. Your local MAC can be found by using the following link:

Pennsylvania Jurisdiction L (Novitas): <http://tinyurl.com/PA-MACadmin>