City General Hospital
30-Day Readmission Risk Assessment

Patient ID:	20251030-Pne-207419	**Generated:**	October 30, 2025 23:17
Patient Name:	N/A	**Age:**	36 years
Sex:	M	**Disease:**	Pneumonia

30-Day Readmission Risk: **71.9%** | Classification: **HIGH RISK** (Threshold: 50%)

Index Admission Summary

Length of Stay:	9 days	**Discharge Destination:**	home_with_care
Prior Admissions (90d):	0	**Comorbidities Count:**	0
Follow-up Scheduled:	Yes	**Admission Type:**	N/A

Top Contributing Risk Factors (SHAP Analysis)

Feature	Value	Contribution	Impact	Interpretation
WBC_count	12.95	**+0.770**	↑ Higher Risk	Elevated WBC suggests ongoing infection or inflammation. (12.95×10■/L — above ref 4.0-11.0×10■/L). This feature has a moderate effect and increases...
age	36.00	**+0.652**	↑ Higher Risk	age influences readmission risk.. This feature has a moderate effect and increases the readmission risk.
Oxygen_saturation	92.72	**-0.618**	↓ Lower Risk	Low oxygen levels may indicate unresolved pneumonia or respiratory distress. (92.72%; ref 92-100%). This feature has a moderate effect and reduces ...
Temperature	37.32	**+0.508**	↑ Higher Risk	Persistent fever reflects ongoing infection or poor response to therapy.. This feature has a moderate effect and increases the readmission risk.
ICU_admit	0.00	**-0.322**	↓ Lower Risk	ICU_admit influences readmission risk.. This feature has a minor effect and reduces the readmission risk.
length_of_stay	9.00	**+0.322**	↑ Higher Risk	length_of_stay influences readmission risk.. This feature has a minor effect and increases the readmission risk.
sex	M	**-0.186**	↓ Lower Risk	sex influences readmission risk.. This feature has a minimal effect and reduces the readmission risk.
prior_admissions_90d	0.00	**-0.136**	↓ Lower Risk	prior_admissions_90d influences readmission risk.. This feature has a minimal effect and reduces the readmission risk.

Clinical Summary

This 36 years m patient presents with a **high risk 30-day readmission risk (71.9%)** following discharge for Pneumonia management. The risk assessment threshold for this condition is 50%, placing this patient significantly above the high-risk threshold.

Primary Risk Drivers: WBC_count, age, Oxygen_saturation are identified as major contributing factors.

Recommendation: Close follow-up and aggressive management of identified risk factors is recommended to prevent readmission.

Clinical Management Recommendations

• **Primary Disease Management:** Review and optimize current treatment plan for Pneumonia. Consider consultation with appropriate specialists.

• **Medication Reconciliation:** Complete medication review at discharge. Ensure patient understands all medications, dosing, and timing.

• **Care Coordination:** Schedule follow-up appointment within 7 days of discharge. Consider home health services for high-risk patients.

• **Patient Education:** Reinforce medication adherence, warning signs requiring immediate attention, and lifestyle modifications.

• **Laboratory Monitoring:** Schedule appropriate lab work based on disease-specific guidelines and medication monitoring requirements.

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Medication Recommendations

Patient ID:	20251030-Pne-207419	**Patient Name:**	N/A
Age / Sex:	36 years / M	**Disease:**	Pneumonia

Important: The following medication recommendations are based on current clinical guidelines and the patient's risk profile. All medications must be reviewed, prescribed, and adjusted by the attending physician based on individual patient factors, allergies, drug interactions, and institutional protocols.

Recommended Medication Protocol:

Antibiotics:

• Amoxicillin-Clavulanate 875mg twice daily (7-10 days)

• Azithromycin 500mg day 1, then 250mg daily (5 days total)

• Levofloxacin 750mg daily if severe or resistant

Supportive:

• Supplemental oxygen to maintain SpO2 >92%

• Bronchodilators (e.g., Albuterol inhaler) if wheezing

• Acetaminophen 500mg every 6 hours for fever

Severe Cases:

• IV antibiotics (Ceftriaxone + Azithromycin) if hospitalized

• Corticosteroids (Prednisone 40mg x 5 days) if severe inflammation

• Consider ICU if respiratory failure

Monitoring:

• Chest X-ray at 6 weeks, follow-up in 48-72 hours if outpatient

Note: These are general guidelines. All medications should be prescribed and adjusted by the attending physician based on individual patient factors.

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Potential Disease Progression & Related Conditions

Patient ID:	20251030-Pne-207419	**Patient Name:**	N/A
Age / Sex:	36 years / M	**Disease:**	Pneumonia

Potential Disease Progression & Related Conditions:

[HIGH RISK] High-Risk Conditions (Requires Active Prevention):

1. **COPD**

- *Risk Factors:* smoking history, recurrent infections, age >50

- *Typical Time Frame:* 2-5 years

- *Prevention Strategy:* Smoking cessation, vaccination, pulmonary rehab

2. **Chronic Respiratory Failure**

- *Risk Factors:* severe pneumonia, underlying lung disease, low SpO2

- *Typical Time Frame:* 1-3 years

- *Prevention Strategy:* Oxygen therapy, pulmonary follow-up

[MODERATE RISK] Moderate-Risk Conditions (Monitor Closely):

1. **Bronchiectasis**

- *Risk Factors:* recurrent pneumonia, incomplete treatment

- *Prevention:* Complete antibiotic course, chest physiotherapy

2. **Pleural Effusion**

- *Risk Factors:* severe pneumonia, delayed treatment

- *Prevention:* Early antibiotics, follow-up imaging

Personalized Risk Assessment:

- Current markers within acceptable ranges. Continue monitoring.