City General Hospital

30-Day Readmission Risk Assessment

Patient ID:	20251031-Hyp-cb8dc1	**Generated:**	October 31, 2025 00:26
Patient Name:	N/A	**Age:**	36 years
Sex:	M	**Disease:**	Hypertension

30-Day Readmission Risk: **60.1%** | 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
Heart_disease_history	0.00	**-0.619**	↓ Lower Risk	Heart_disease_history influences readmission risk.. This feature has a moderate effect and reduces the readmission risk.
prior_admissions_90d	0.00	**-0.550**	↓ Lower Risk	prior_admissions_90d influences readmission risk.. This feature has a moderate effect and reduces the readmission risk.
discharge_destination	home_with_care	**-0.523**	↓ Lower Risk	discharge_destination influences readmission risk.. This feature has a moderate effect and reduces the readmission risk.
length_of_stay	9.00	**+0.387**	↑ Higher Risk	length_of_stay influences readmission risk.. This feature has a minor effect and increases the readmission risk.
sex	M	**+0.376**	↑ Higher Risk	sex influences readmission risk.. This feature has a minor effect and increases the readmission risk.
Creatinine	0.83	**-0.333**	↓ Lower Risk	Rising creatinine can suggest renal strain or damage from hypertension. (0.83mg/dL; ref 0.6-1.3mg/dL). This feature has a minor effect and reduces ...
Medication_adherence	0.00	**+0.290**	↑ Higher Risk	Medication_adherence influences readmission risk.. This feature has a minor effect and increases the readmission risk.
age	36.00	**-0.218**	↓ Lower Risk	age influences readmission risk.. This feature has a minor effect and reduces the readmission risk.

Clinical Summary

This 36 years m patient presents with a **high risk 30-day readmission risk (60.1%)** following discharge for Hypertension management. The risk assessment threshold for this condition is 50%, placing this patient significantly above the high-risk threshold.

Primary Risk Drivers: Heart_disease_history, prior_admissions_90d, discharge_destination 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 Hypertension. 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:	20251031-Hyp-cb8dc1	**Patient Name:**	N/A
Age / Sex:	36 years / M	**Disease:**	Hypertension

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:

First-Line Therapy:

• ACE inhibitors (e.g., Lisinopril 10-40mg daily)

• ARBs (e.g., Losartan 50-100mg daily) if ACE-I not tolerated

• Calcium channel blockers (e.g., Amlodipine 5-10mg daily)

• Thiazide diuretics (e.g., Hydrochlorothiazide 12.5-25mg daily)

Combination Therapy:

• ACE-I + CCB for better BP control

• ARB + Thiazide for resistant hypertension

• Beta-blockers (e.g., Metoprolol) if cardiac comorbidity

Resistant Htn:

• Add Spironolactone 25-50mg if BP still >140/90

• Consider secondary causes screening

• Refer to hypertension specialist if uncontrolled on 3+ agents

Monitoring:

• Home BP monitoring twice daily, monthly follow-up until controlled

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:	20251031-Hyp-cb8dc1	**Patient Name:**	N/A
Age / Sex:	36 years / M	**Disease:**	Hypertension

Potential Disease Progression & Related Conditions:

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

1. **Stroke**

- *Risk Factors:* systolic BP >160, atrial fibrillation, age >65

- *Typical Time Frame:* 5-10 years

- *Prevention Strategy:* BP <130/80, anticoagulation if AFib, lifestyle changes

2. **Heart Failure**

- *Risk Factors:* uncontrolled BP, LV hypertrophy, coronary disease

- *Typical Time Frame:* 10-15 years

- *Prevention Strategy:* ACE-I/ARB therapy, diuretics, sodium restriction

3. **Chronic Kidney Disease**

- *Risk Factors:* BP >140/90, diabetes, proteinuria

- *Typical Time Frame:* 10-20 years

- *Prevention Strategy:* BP control, nephroprotective agents

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

1. **Atrial Fibrillation**

- *Risk Factors:* left atrial enlargement, uncontrolled HTN

- *Prevention:* BP control, reduce alcohol intake

Personalized Risk Assessment:

- Current markers within acceptable ranges. Continue monitoring.

Disclaimer: This report is generated by a machine learning model for clinical decision support. All recommendations should be reviewed and approved by qualified healthcare professionals. Medication dosages and treatment plans must be individualized based on patient-specific factors, comorbidities, and current clinical guidelines.