

# City General Hospital

## 30-Day Readmission Risk Assessment

Patient ID:	20251030-Typ-2ce90e	Generated:	October 30, 2025 23:25
Patient Name:	N/A	Age:	36 years
Sex:	M	Disease:	Type 2 Diabetes

30-Day Readmission Risk: **98.1%** | Classification: **HIGH RISK** (Threshold: 45%)

### 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
HbA1c	8.28	+1.487	↑ Higher Risk	HbA1c influences readmission risk. (8.28% — above ref 4.0-6.5%). This feature has a major effect and increases the readmission risk. Optimize long...
BMI	30.89	+1.104	↑ Higher Risk	BMI influences readmission risk. (30.89kg/m² — above ref 18.5-25kg/m²). This feature has a major effect and increases the readmission risk. Reinfor...
length_of_stay	9.00	-0.721	↓ Lower Risk	length_of_stay influences readmission risk.. This feature has a moderate effect and reduces the readmission risk.
Fasting_glucose	111.70	-0.719	↓ Lower Risk	Fasting_glucose influences readmission risk.. This feature has a moderate effect and reduces the readmission risk.
Creatinine	1.06	+0.616	↑ Higher Risk	Creatinine influences readmission risk. (1.06mg/dL; ref 0.6-1.3mg/dL). This feature has a moderate effect and increases the readmission risk. Adjus...
comorbidities_count	0.00	-0.460	↓ Lower Risk	comorbidities_count influences readmission risk.. This feature has a minor effect and reduces the readmission risk.
prior_admissions_90d	0.00	-0.215	↓ Lower Risk	prior_admissions_90d influences readmission risk.. This feature has a minor effect and reduces the readmission risk.
discharge_destination	home_with_care	-0.201	↓ Lower Risk	discharge_destination 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 (98.1%)** following discharge for Type 2 Diabetes management. The risk assessment threshold for this condition is 45%, placing this patient significantly above the high-risk threshold.

**Primary Risk Drivers:** HbA1c, BMI, length\_of\_stay 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 Type 2 Diabetes. 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-Typ-2ce90e	Patient Name:	N/A
Age / Sex:	36 years / M	Disease:	Type 2 Diabetes

**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:

- Metformin 500-1000mg twice daily (adjust for renal function)
- SGLT2 inhibitors (e.g., Empagliflozin 10-25mg daily) if GFR >45
- GLP-1 agonists (e.g., Semaglutide) for cardiovascular benefit

#### Glucose Control:

- Insulin therapy if HbA1c >9% or symptomatic hyperglycemia
- DPP-4 inhibitors (e.g., Sitagliptin 100mg daily) as add-on
- Basal insulin (e.g., Glargine) starting 10 units at bedtime

#### Complications:

- ACE inhibitors/ARBs for nephroprotection (e.g., Lisinopril 10-40mg)
- Statin therapy (e.g., Atorvastatin 20-40mg) for cardiovascular risk
- Aspirin 81mg daily if cardiovascular disease present

#### Monitoring:

- Check HbA1c every 3 months, annual kidney function, regular foot exams

*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-Typ-2ce90e	Patient Name:	N/A
Age / Sex:	36 years / M	Disease:	Type 2 Diabetes

**Potential Disease Progression & Related Conditions:**

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

**1. Diabetic Nephropathy**

- *Risk Factors:* elevated creatinine, proteinuria, poor HbA1c control
- *Typical Time Frame:* 5-10 years
- *Prevention Strategy:* Strict BP control, ACE-I/ARB therapy, HbA1c <7%

**2. Diabetic Retinopathy**

- *Risk Factors:* HbA1c >8%, hypertension, diabetes duration >10 years
- *Typical Time Frame:* 10-15 years
- *Prevention Strategy:* Annual eye exams, optimal glucose control

**3. Cardiovascular Disease**

- *Risk Factors:* high LDL, obesity, smoking, hypertension
- *Typical Time Frame:* 10-20 years
- *Prevention Strategy:* Statin therapy, aspirin, lifestyle modification

**4. Peripheral Neuropathy**

- *Risk Factors:* poor glycemic control, long diabetes duration
- *Typical Time Frame:* 5-10 years
- *Prevention Strategy:* Glucose control, B12 supplementation, foot care

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

**1. Diabetic Foot Ulcers**

- *Risk Factors:* neuropathy, poor circulation, foot deformity
- *Prevention:* Daily foot inspections, proper footwear

**2. Gastroparesis**

- *Risk Factors:* autonomic neuropathy, poor glucose control
- *Prevention:* Controlled glucose, smaller frequent meals

**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.