Strategies for Effective Discharge Planning for Hospitalized Patients With Diabetes

Disclosures
- I do not have any conflicts of interest or financial disclosures
- To receive contact hours for this continuing education activity, the participant must:
  - Attend the entire session
  - Complete the program evaluation at the completion of the event

Objectives
- Summarize primary care involvement for the diabetic patient and management during transitions of care
LIVE Q&A:
When does discharge planning begin?
1. Day prior to anticipated discharge
2. Day of discharge
3. On admission
4. Once discharge orders are placed

Gaps in US Hospital Discharge Planning and Transitional Care
Base: Adults with any chronic condition hospitalized in the past 2 years

Discharge Planning Challenges
• Pressures to discharge patient early
• Shorter hospital stays
• Competing priorities
• Lack of primary care physician
• Nursing workload
• Lack of diabetes specialist educator
• Weekend discharges
Care Coordination for Patients With Hyperglycemia/Diabetes

- Create a collaborative team
- Identify patients with hyperglycemia/diabetes
- Develop an individualized treatment plan for each patient
- Determine transition and discharge strategy
- Monitor progress


Transition From Hospital to Outpatient Care

- Preparation for transition to the outpatient setting should begin at the time of hospital admission
- Multidisciplinary team
  - Bedside nurse
  - Clinical pharmacist
  - Registered dietitian
  - Case manager
- Clear communication with outpatient providers is critical for ensuring safe and successful transition to outpatient management


Discharge Considerations

- What are your discharge plans for this patient?
- Will they be discharged on insulin therapy?
- When and where will follow-up take place?
- What education do they need prior to discharge?
Preadmission Factors to Be Considered in Discharge Planning

- Physical/self-care limitations: blindness, stroke, amputation, dexterity
- Socioeconomic factors: insurance coverage, family support
- Access to follow-up care: PCP, other HCPs
- Degree of glycemic control prior to admission and severity of hyperglycemia
- Learning issues: language, cognition, competence related to diabetes self-management

Functional Health Literacy and Understanding of Medications at Discharge

172 patients discharged from community-based teaching hospital with prescriptions for 1 or more new medications

- Recalled being told of ANY possible adverse effects: 11%
- Could name ≥1 possible adverse effect: 22%
- Knew dose: 56%
- Knew medication purpose: 64%
- Knew medication name: 64%
- Knew dosing schedule: 68%
- Aware that new medications had been prescribed: 86%

Relationship Between Inpatient and Outpatient Diabetes Management

Care received in the outpatient setting can affect need for hospitalization

Outpatient
- Compliance with glycemic goals depends on the patient

Inpatient
- Compliance with glycemic goals depends on physicians, nursing, and hospital staff

Lessons learned in the hospital can impact patient self-care behavior at home
Predischarge Checklist

- Diet information
- Monitor/strips and prescription
- Prescription for/supplies of medications, insulin, needles
- Treatment goals
- Contact phone numbers
- Medi-alert bracelet
- Survival skills training

Nursing + Care Coordination: Survival Skills to Be Taught Before Discharge

- How and when to take medication/insulin
  - Effects of medication
- How/when to test blood glucose (SMBG)
  - Target glucose levels
- Meal planning basics
- How to treat hypoglycemia
- Sick-day management plan
- Date/time of follow-up visits
  - Including diabetes education
- When and whom to call on the healthcare team
  - Available community resources

Discharge Planning Depending on Etiology of Hyperglycemia

Temporary Hyperglycemia
- Requires in hospital
- Requires follow-up testing

Inpatient Hyperglycemia
- Requires in hospital

Previously Diagnosed Diabetes
- Plan for follow-up diagnosis, implement therapy and education
- Assess level of control
- Adjust therapy as needed
- Assess for complications
- Outpatient follow-up

Previously Undiagnosed Diabetes
- Plan to confirm diagnosis, implement therapy and education

A1C Is Helpful in Determining Post-discharge Treatment

Patients Without Previously Diagnosed Diabetes

<table>
<thead>
<tr>
<th>A1C</th>
<th>Indication</th>
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<td>≥6.5%</td>
<td>• Incipient diabetes</td>
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<td>• Refer to diabetes educator to begin self-management education prior to discharge</td>
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<tr>
<td>5.3%-6.4%</td>
<td>• Increased risk for diabetes</td>
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<tr>
<td></td>
<td>• Prior to discharge, address implementation of lifestyle interventions that promote weight loss and increased activity</td>
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Differentiation between hospital-related hyperglycemia and undiagnosed diabetes requires follow-up testing (FPG, 2-h OGTT) once patient is metabolically stable using established criteria.

Indication

- ≥6.5%
  • Incipient diabetes
  • Refer to diabetes educator to begin self-management education prior to discharge
- 5.3%-6.4%
  • Increased risk for diabetes
  • Prior to discharge, address implementation of lifestyle interventions that promote weight loss and increased activity

Patients Newly Diagnosed With Diabetes During Hospitalization

- Develop a diabetes education plan prior to hospital discharge that addresses the following:
  - Understanding of the diagnosis of diabetes
  - SMBG and explanation of home blood glucose goals
  - Definition, recognition, treatment, and prevention of hyperglycemia and hypoglycemia
  - Identification of healthcare provider who will provide diabetes care after discharge
  - Information on consistent eating patterns
  - When and how to take medication, including proper disposal of needles and syringes
  - Sick-day management

Discharging Patients With Previously Diagnosed Diabetes

- Resume preadmission diabetes regimen at time of discharge for patients with acceptable preadmission glycemic control and no contraindication to prior therapy
- Modify preadmission therapy for patients identified as being in poor control
- Provide patient and family members/caregivers with written and oral instructions regarding glycemic management regimen at time of hospital discharge
LIVE Q&A:

All else equal, increasing the dose of home noninsulin agents, adding a third agent, or adding basal insulin at bedtime would be most appropriate for patients with an A1C of?

1. 6.5%-7.5%
2. >9.0%
3. 7.6%-9.0%

A1C Is Helpful in Determining Post-discharge Treatment

Patients With Previously Diagnosed Diabetes

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<td>- Add third agent</td>
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<td></td>
<td>- Add basal insulin at bedtime</td>
</tr>
<tr>
<td>7.6%-9.0%</td>
<td>- If already on 2 noninsulin agents, add once daily basal insulin at bedtime</td>
</tr>
<tr>
<td>≥9%</td>
<td>- Discharge home on basal and bolus insulin regimen</td>
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<tr>
<td></td>
<td>- May use amount of basal insulin required in hospital as once daily glargine/detemir or twice daily NPH dose</td>
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<td>- Continue multiple daily doses as started in the hospital if appropriate</td>
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<td>- Twice daily premixed insulin may be considered for less complex insulin regimens, particularly in elderly patients</td>
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Patients With Previously Diagnosed Diabetes

Benefits are classified according to major effects on fasting glucose, postprandial glucose, and nonalcoholic fatty liver disease (NAFLD). Eight broad categories of risks are summarized. The intensity of the background shading of the cells reflects relative importance of the benefit or risk.

**Recommended Educational Strategies for Inpatients Prior to and at Discharge**

- Begin education on day 1 or as soon as the patient is able to participate
- Initiate inpatient diabetes educator consult as early as possible
- Nursing to reinforce the education as many times as possible utilizing every opportunity (medications, BG result, diet, etc.)
- Involve family members whenever appropriate
- Provide education materials to reinforce teachings and provide community and Web resource lists
- Continue education on an outpatient basis if needed by referring through appropriate channels

**Continuum of Care: Patients New to Insulin**

- Refer to an outpatient diabetes education program shortly after discharge to discuss ongoing diabetes control
- Provide discharge information
  - When to check BG
  - Timing of insulin administration
  - When to call PCP (eg, symptoms of hypoglycemia)
- Communicate with patient’s PCP
  - Changes made to patient’s treatment regimen during hospitalization
  - Complete medication list
- Assess need for home health care
Timely Discharge Information Required by the Receiving PCP

- Primary and secondary diagnoses and diagnostic findings
- Dates of hospitalization, treatment provided, and a summary of hospital course
- Discharge medications
- Patient or family counseling
- Tests pending at discharge
- Details of follow-up arrangements
- Name and contact information of the responsible hospital physician

Failure to Restart Diabetes Medications and Outcomes in Older Patients After Acute MI

- 8751 Medicare beneficiaries with diabetes and AMI admitted on antihyperglycemic therapy
- 7581 discharged ON antihyperglycemic therapy
- 1170 discharged OFF antihyperglycemic therapy

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<thead>
<tr>
<th>Mortality at 1 year</th>
<th>Unadjusted</th>
<th>Adjusted</th>
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<tbody>
<tr>
<td>HR</td>
<td>P</td>
<td>HR</td>
</tr>
<tr>
<td>1.47</td>
<td>&lt;0.001</td>
<td>1.29</td>
</tr>
<tr>
<td>(1.32-1.64)</td>
<td></td>
<td>(1.15-1.45)</td>
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Patients discharged OFF vs. discharged ON antihyperglycemic therapy

Cox Proportional Hazards Regression

Summary

Discharge Checklist for Patients with Inpatient Hyperglycemia

- Patient’s need for diabetes education has been assessed (preferably upon admission)
- Patient has received the necessary skills and training
- Patient is provided with post-discharge plan for diabetes
- Patient has received clear instructions about medications
  - Name
  - Dosage
  - When to take them
- Patient has a scheduled follow-up appointment at time of discharge
- Written documentation for PCP is completed at time of discharge