Getting Off the Merry-Go-Round
Reducing Readmissions for Patients with Diabetes

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November 10, 2017
Disclosures

- none
Objectives -  The participant in this activity will:

1. Understand the key ingredients for successful transition of diabetes care from the hospital to home

2. Identify common health system and patient related barriers to diabetes management

2. Describe strategies to address obstacles and reduce readmissions for patients with diabetes
5 Themes Associated With Early Readmission

- Poor health literacy and feeling helpless with one’s illness may contribute to early readmission
- Current discharge process may not effectively communicate instructions and may lack diabetes specific issues
- Social conditions impede outpatient care

Lessons learned from other populations to reduce readmission/ED risk

• Successful interventions have multiple components
  – Patient-centered discharge instructions, education and planning
  – Peri-discharge coordination of care by a transition coach (usually RN or NP)
  – Post-discharge phone calls
• RCTs report 30-74% relative risk reduction

Evans RL, et al. *Medical Care* Apr 1993;31(4)
Coleman EA, et al. *Archives of Internal Medicine.* 2006;166(17)
Health System Related Barriers

- Competing priorities
- Diabetes is rarely primary reason for admission
- Inpatient diabetes education – timing, resources
- Diabetes management in the inpatient setting is often different from the outpatient setting
- Outpatient diabetes management can be complex with many newer medication options
- Post-discharge medication adjustment needed sooner than most other chronic conditions
- Lack of timely post-hospitalization follow-up
Patient Related Barriers to Diabetes Self-Management

• Health Literacy
• Medications/Supplies
  – Finances
  – Ease of use
  – Complexity of regimen
  – Physical Barriers to injections, fingersticks, etc
• Reliable Access to Food, Transportation
• Lack of Caregiver
• Poor Continuity of Medical Care
Effective Hospital Discharge for Diabetes:

- Discharge planning starts on admission
- Individualized inpatient diabetes self-management education
- Mutually agreed upon discharge plan
- Clear diabetes-specific instructions that are given to patient and available to next provider (PCP)

Risk Reduction Strategies

• A1c result prior to discharge to guide plan (caution in pts with anemia, ESRD or post transfusion)
• Medication Reconciliation, “Med-to-Bed”, involve patient and caretaker
• Follow up call & appointments scheduled for next visit post discharge
• Diabetes therapy adjustments soon after discharge
• Transportation assistance to appointments
• Greater use of home care, meal assistance, ongoing diabetes education and care coordination to support high risk patients

Inpatient diabetes teams may reduce readmission risk

• CDE/RN and Endocrinologist visiting patients daily and managing diabetes (RCT, N=179)
  – Reduced readmission rate at 3 mo: 15 vs 32%, p=0.01

• Inpatient glucose management team consultation (retrospective, N=440 with DM2 on medical service)
  – 30 day readmission rate 9.1 vs 28.9% no consult

Koperski et al, Diabetes Care, 1991. 20 (10)  
Inpatient diabetes education may reduce readmission risk

- Inpatient diabetes education conducted by a CDE or trainee (retrospective, N=2265 with DM and A1C >9%)
  - 30 day readmission rate 11 vs 16%, P=0.0001
  - Reduced 180 day readmission by 20%

- Learner-Centered DSME in the hospital (prospective, nonrandomized, N= 125 medicine pt with DM + admission BG <40 or > 200mg/dL)
  - Trend toward decreased hospital and ER visits

- Inpatient diabetes self-management education (N=36 with DM and A1C >9%)
  - 75% of the 8 patients without DM education were readmitted within 30 days compared to only 42.9% of the 28 patients who did have DM education

Timely diabetes follow-up may reduce readmission risk

- RCT, N=100 medically indigent with diabetes
- Intervention: Patients seen at transitional care diabetes clinic by Endo, NP or PA 2-5 days post-discharge
- Overall no difference in ED visits/readmissions at 90 days
- Among subgroup admission for diabetes (N=30)
  - 12.5% vs 42.9% readmitted for diabetes, p<0.05

Medication escalation for uncontrolled DM may reduce readmission risk

- Retrospective, N=1949 adults with DM2
- AIM: examine the association of in-hospital diabetes regimen intensification with subsequent 30-day risk for unplanned readmission/ED admission
- Overall no difference in readmissions/ED visits at 30 days
- Among subgroup with A1C > 8%
  - Odds ratio 0.33, 95% CI 0.12-0.88, P=0.03

Transitions are a high risk time

Previous Home Regimen:
Diet? Activity level?
Oral Agents?
Non-insulin injectables?
Insulin?

Hospital Regimen:
Carb controlled meal plan,
taken off oral agents
placed on basal/bolus insulin

New Home Regimen:
Diet? Activity level?
Oral Agents?
Non-insulin injectables?
Insulin?
Follow Up Plan?

Prior to Discharge:
Consider A1C, New co-morbidities,
and New contraindications
Transition Home

- Inpatient requirements
- A1C
- Home lifestyle
- Body Weight (BMI)
- Age of patient
- Co-morbidities
- Risk of hypoglycemia
- Glycemic target/goals
- Customize to patient
  - Finances/Funding
  - Resources (food, assistance)
  - Physical limitations
  - Convenience/Complexity

Inzucchi et al, *Diabetes Care* 2015;38:140–149
**ABCDs of choosing medications**

**A**  ->  Age,  A1c (degree of hyperglycemia)

**B**  ->  Body weight or BMI

**C**  ->  Cost/Coverage; Co-morbidities  Convenience/Complexity; CV benefit

**D**  ->  Defect; Duration of DM

**S**  ->  Side effects ; Safety profile
Discharge Insulin Algorithm

Discharge Treatment

- **A1C < 7%**: Re-start outpatient treatment regimen (OAD and/or insulin)

- **A1C 7%-9%**: Re-start outpatient oral agents and D/C on glargine once daily at 50% of hospital dose

- **A1C >9%**: D/C on basal bolus at same hospital dose.
  Alternative: re-start oral agents and D/C on glargine once daily at 80% of hospital dose

Hospital Discharge Algorithm Based on Admission HbA1C for the Management of Patients with T2DM

Hospital Discharge Algorithm Based on Admission HbA1C for the Management of Patients with T2DM

Primary outcome:
- change in A1C at 4 wks and 12 wks after discharge

<table>
<thead>
<tr>
<th></th>
<th>All Patients</th>
<th>OAD</th>
<th>OAD + Glargine</th>
<th>Glargine+ Glulisine</th>
<th>Glargine</th>
</tr>
</thead>
<tbody>
<tr>
<td># patients, n (%)</td>
<td>224</td>
<td>81 (36)</td>
<td>61 (27)</td>
<td>54 (24)</td>
<td>20 (9)</td>
</tr>
<tr>
<td>A1C Admission, %</td>
<td>8.7±2.5</td>
<td>6.9±1.5</td>
<td>9.2±1.9</td>
<td>11.1±2.3</td>
<td>8.2±2.2</td>
</tr>
<tr>
<td>A1C 4 Wks F/U, %</td>
<td>7.9±1.7*</td>
<td>7.0±1.4</td>
<td>8.0±1.4ψ</td>
<td>8.8±1.8ψ</td>
<td>7.7±1.7</td>
</tr>
<tr>
<td>A1C 12 Wks F/U, %</td>
<td>7.3±1.5*</td>
<td>6.6±1.1</td>
<td>7.5±1.6*</td>
<td>8.0±1.6*</td>
<td>6.7±0.8*</td>
</tr>
<tr>
<td>BG&lt;70 mg/dl, n (%)</td>
<td>62 (29)</td>
<td>17 (22)</td>
<td>17 (30)</td>
<td>23 (44)</td>
<td>5 (25)</td>
</tr>
<tr>
<td>BG&lt;40 mg/dl, n (%)</td>
<td>7 (3)</td>
<td>3 (4)</td>
<td>0 (0)</td>
<td>3 (6)</td>
<td>0 (0)</td>
</tr>
</tbody>
</table>

* p< 0.001 vs. Admission A1C; ψp=0.08

**Revised Discharge Insulin Algorithm**

Discharge Treatment

- **A1C < 7%**
  - **A1C <8%**
    - Re-start outpatient treatment regimen (OAD and/or insulin)

- **A1C 7%-9%**
  - **A1C 8%-10%**
    - Re-start outpatient oral agents and D/C on glargine once daily at 50% of hospital dose

- **A1C >9%**
  - **A1C >10%**
    - D/C on basal bolus at same hospital dose.
    - Alternative: re-start oral agents and D/C on glargine once daily at 80% of hospital dose

### UCSD Transition Guide

<table>
<thead>
<tr>
<th>A1c &lt;7% With no significant hypoglycemia</th>
<th>A1c 7-10%*</th>
<th>A1c &gt;10%*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Return to same regimen as prior to admission (oral agents and/or insulin)</td>
<td>Restart outpatient oral agents, optimize orals, consider adding basal insulin once daily at 50% inpt dose</td>
<td>Restart outpatient oral agents, optimize orals, add basal insulin once daily at 75% inpt dose</td>
</tr>
<tr>
<td><em>Ensure compliance with home regimen, maximize lifestyle changes, optimize orals and add insulin according to funding, compliance and lifestyle on an individual basis</em></td>
<td></td>
<td>Alternative: stop orals (except metformin in most cases) and start 70/30 insulin or basal/bolus insulin at 75% of inpatient dose if using metformin or 100% inpatient dose if not a candidate for metformin</td>
</tr>
</tbody>
</table>

Adapted with permission from algorithm by Umpierrez, G, *Diabetes Care* 2014
# VMMC Transition Guide

<table>
<thead>
<tr>
<th>A1c &lt;6% OR WITH significant hypoglycemia</th>
<th>A1c &lt;8% or at goal WITHOUT significant hypoglycemia</th>
<th>A1c 8-10%*</th>
<th>A1c &gt;10%*</th>
</tr>
</thead>
<tbody>
<tr>
<td>De-escalate regimen</td>
<td>Return to same regimen as prior to admission</td>
<td>1. Restart outpatient non-insulin agents</td>
<td>1. Regimen will require insulin, start with basal insulin (0.15-0.25 units/kg once daily)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Optimize non-insulin agents</td>
<td>2. Unless contraindicated, resume metformin at maximum dose</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Consider adding basal insulin (0.15-0.25 units/kg once daily)</td>
<td></td>
</tr>
</tbody>
</table>

Adapted with permission from algorithm by Umpierrez, G, *Diabetes Care* 2014
# NYP/Weill Cornell Transition Guide

<table>
<thead>
<tr>
<th>A1c &lt; 7%</th>
<th>A1c 7-9%</th>
<th>A1c &gt; 9%</th>
</tr>
</thead>
</table>
| Return to same home regimen unless contraindicated | Restart home regimen if not contraindicated, keep basal at 50-100% of inpatient dose | **Best option**: Basal insulin at 75-100% of current dose & bolus insulin with meals at fixed or calculated dose  
**Other options:**  
- Basal Plus (basal insulin + bolus insulin at largest meal)  
- Pre-mixed insulin before breakfast & dinner  
- Basal insulin once daily + repaglinide with meals  
- Basal insulin once daily & GLP-1 injectable daily or weekly |

**Bolus insulins**: aspart, lispro, glulisine  
**Basal insulins**: degludec, detemir, glargine U100 & U300  
**Pre-Mixed insulins**: 70/30 & 75/25

Adapted with permission from algorithm by Umpierrez, G, *Diabetes Care* 2014
Start With Monotherapy Unless:

- **HbA₁c level is ≥9%**, consider dual therapy.
- **HbA₁c level is ≥10%**, blood glucose level is ≥300 mg/dL, or patient is markedly symptomatic, consider combination injectable therapy.

### Monotherapy

<table>
<thead>
<tr>
<th></th>
<th>Metformin</th>
<th>Lifestyle Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficacy</strong></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>Hypoglycemia Risk</strong></td>
<td>Low risk</td>
<td></td>
</tr>
<tr>
<td><strong>Weight</strong></td>
<td>Neutral/loss</td>
<td></td>
</tr>
<tr>
<td><strong>Side Effects</strong></td>
<td>GI/lactic acidosis</td>
<td></td>
</tr>
<tr>
<td><strong>Costs</strong></td>
<td>Low</td>
<td></td>
</tr>
</tbody>
</table>

If HbA₁c target not achieved after approximately 3 mo of monotherapy, proceed to 2-drug combination (order not meant to denote any specific preference; choice dependent on a variety of patient- and disease-specific factors):

### Dual Therapy

<table>
<thead>
<tr>
<th></th>
<th>Metformin +</th>
<th>Lifestyle Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sulfonylurea</strong></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>Thiazolidinedione</strong></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>DPP-4-i</strong></td>
<td>Intermediate</td>
<td></td>
</tr>
<tr>
<td><strong>SGLT-2-i</strong></td>
<td>Intermediate</td>
<td></td>
</tr>
<tr>
<td><strong>GLP-1-RA</strong></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>Insulin (basal)</strong></td>
<td>Highest</td>
<td></td>
</tr>
</tbody>
</table>

If HbA₁c target not achieved after approximately 3 mo of dual therapy, proceed to 3-drug combination (order not meant to denote any specific preference; choice dependent on a variety of patient- and disease-specific factors):

### Triple Therapy

<table>
<thead>
<tr>
<th></th>
<th>Metformin +</th>
<th>Lifestyle Management</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sulfonylurea + Thiazolidinedione</strong></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td><strong>DPP-4-i + Thiazolidinedione</strong></td>
<td>Intermediate</td>
<td></td>
</tr>
<tr>
<td><strong>SGLT-2-i + Thiazolidinedione</strong></td>
<td>Intermediate</td>
<td></td>
</tr>
<tr>
<td><strong>GLP-1-RA + Thiazolidinedione</strong></td>
<td>Intermediate</td>
<td></td>
</tr>
<tr>
<td><strong>Insulin (basal) + Thiazolidinedione</strong></td>
<td>Highest</td>
<td></td>
</tr>
</tbody>
</table>

If HbA₁c target not achieved after approximately 3 mo of triple therapy and patient on oral combination, move to basal insulin or GLP-1-RA; if the patient is on GLP-1-RA, add basal insulin; or if the patient is on optimally titrated basal insulin, add GLP-1-RA or mealtime insulin. Metformin therapy should be maintained, whereas other oral agents may be discontinued on an individual basis to avoid unnecessarily complex or costly regimens (i.e., adding a fourth antihyperglycemic agent).

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Inzucchi SE, et al. Diabetes Care 2015;38:140
Affordability of diabetes medication and supplies

- Financial Barriers:
  - No insurance
  - Under insured
  - High out-of-pocket costs
  - Lack of formulary coverage for specific med or type (vial vs pen)

- Strategies:
  - Hospital provides 30 day supply for low-no cost
  - Care coordinators provide options (SW, RN, pharmacists or CDE)

Inpatient Recs:
- continue lantus 32 units bid
- continue lispro 24 units qac, RN to give 0 units if patient ate less than 2 carb servings, give half of the scheduled dose if patient ate 2 carb servings, and give the full dose if patient ate more than 2 carb servings
- continue Lispro high dose correction scale ac and hs

Outpatient Recs:
A1C 8.8% on intermittent metformin. Inpatient glucose suggests significant insulin requirement, however may be related in part to stress/illness. Patient willing to take insulin at home.
- resume metformin at higher dose of 1000mg bid and take regularly
- start Byetta pen 5mcg bid (approved per insurance, copay $50/mo, activated copay card to reduce cost to $25/mo)
- start basaglar pen 25 units bid (this is basal formulary per insurance, copay $50/mo, pt given copay card that he activated that will reduce cost to $5/mo)
- nano pen needles #100
- needs meter/strips/lancets for 1-2x/day testing #50 of each per month (brand per patient insurance)
- follow carb limited diet, limiting carbs to 4 servings per meal and 0 carb beverages
- needs PCP, pt given list of low cost clinics in his zip code, he chose La Maestra Clinic and has apt for May 25 at 9:115am

Correct Prescriptions for Meds and Supplies

78.3% of the 95.9% of patients with prescriptions for insulin had NO prescription for needles (N=36 with DM + A1C >9%)

Has everything you will need including orals, non-insulin injectables, insulin in pen and vial form, supplies including pen needles, syringes, meters, strips and lancets.

**Order Sets**

**OP/ED GEN Additional Discharge Orders for Diabetic Patients** Manage My Version

**NOTE:** Orders from this order set are post-discharge (ambulatory) orders. They will appear on the patient’s After Visit Summary.

**IMPORTANT:** Because ambulatory prescriptions are included in this order set, please be sure to assign the appropriate Pharmacy prior to signing any of these orders for medications or supplies.

**Link to UCSD Algorithm for Transition to Outpatient for Diabetic Patients**

### Medications - Oral Agents
- Metformin
- Sulfonylureas
- Pioglitazone
- DPP-4 Inhibitors
- SGLT-2 Inhibitors

### Medications - Non-Insulin Injectables (Pens Only)
- GLP1 Receptor Agonists

### Medications - Insulins (Vials)
**NOTE:** Only select insulin from one of the short-acting insulin order groups.
- Long-Acting Insulins
- Short-Acting Insulins - Nutritional Only
- Short-Acting Insulins - Correctional Only
- Short-Acting Insulins - Nutritional and Correctional
- Mixed-Formulation Insulins

### Medications - Insulins (Pens)
**NOTE:** Only select insulin from one of the short-acting insulin order groups.
- Pens with Long-Acting Insulins
### Medications - Insulins (Vials)

**NOTE:** Only select insulin from one of the short-acting insulin order groups.

- **Long-Acting Insulins**
- **Short-Acting Insulins - Nutritional Only**
- **Short-Acting Insulins - Correctional Only**
- **Short-Acting Insulins - Nutritional and Correctional**
- **Mixed-Formulation Insulins**

### Medications - Insulins (Pens)

**NOTE:** Only select insulin from one of the short-acting insulin order groups.

- **Pens with Long-Acting Insulins**
- **Pens with Short-Acting Insulins - Nutritional Only**
- **Pens with Short-Acting Insulins - Correctional Only**
- **Pens with Short-Acting Insulins - Nutritional and Correctional**
- **Pens with Mixed-Formulation Insulins**

### Supplies

- **Insulin Syringes**
- **Insulin Pen Needles**

### Fingerstick Glucose Testing Supplies

- **Diabetes Supplies Panel**
  - blood glucose meter
  - glucose blood test strip
  - 1 strip by Other route, Disp-100 strip, R-5, ePrescribe
  - Dispense testing strips from (Glucose Supply Product:230010).
- **lancets**
  - 1 Lancet by Other route, Disp-100 Lancet, R-5, ePrescribe
  - Dispense lancets from (Glucose Supply Product:230010).

### Consults

- **Post-Discharge Consults**
**Clinical Pharmacology**

**Order Inst:** Please specify the brand name to dispense in the "Notes to Pharmacy" field below.

**Product:** GLUCOSE BLOOD VI STRIP

**Sig Method:** Specify Dose, Route, Frequency

**Dose:** 1 strip

**Route:** Other

**Frequency:**

**Duration:** ✓ Doses ✓ Days

**Starting:** 6/23/2015 **Ending:**

**Mark long-term:** ✓ GLUCOSE BLOOD

**Patient Sig:** 1 strip by Other route.

**Dispense:** 100 strip

**Refill:** 5 0 1 2 3 11

**Dispense As Written**

**Class:**

**Taking:**

**Dx Assoc:**

**Notes to Pharmacy (F6):** (100 char max)

Dispense testing strips from [Glucose Supply Product:330013]

Brand of patient's preference or covered by insurance
**Diabetes Survival Skills**

**TAKE THESE ITEMS WITH YOU TO YOUR FOLLOW-UP APPOINTMENT**

- Blood Sugar Log book that is in the box with the glucometer
- Your Hospital Discharge Instructions and Medication List
- This Quick Reference Guide

**MY DIABETES GOALS**

- My diabetes provider is ____________________ (fill in)
- My most recent hemoglobin A1c is ____________________ (fill in)
- My hemoglobin A1c is: **At Goal** Below Target **Above Target** (circle one)

Before I see my diabetes provider I will:

**BLOOD SUGAR MONITORING PLAN**

- In the hospital, we check blood glucose at least four times daily.
- At home, I will check my blood sugar at least ____________________ times daily.
- I am confident I know how to check my blood sugar.
- I have all the supplies I need to check my blood sugar at home.
- I know how to dispose of the sharps (needles and lancets) properly.

**LOW BLOOD SUGAR PLAN: LESS THAN 70mg/dL**

Know the signs: You may feel nervous, sweaty, shaky, weak, and have blurred vision.

1. Immediately check your blood sugar.
2. If low, eat or drink 15-20 grams of sugar (3 sugar packets).
3. Recheck your blood sugar after 15 minutes, repeat #2 if still <70 or recheck in 15 minutes.
4. If it is low after 30 minutes, call 911.
5. When blood sugar is over 70mg/dL, eat a snack with carbohydrate and protein.

**DIABETES “STOPLIGHT” TOOL**

- **GREEN** My fasting blood sugar is between 70 - 120mg/dL
  - Continue to check your blood sugar as routine, keep up the good work!

- **YELLOW** My fasting blood sugar is more than 200mg/dL or between 80 and 70mg/dL
  - Call your provider during business hours for self-management support

- **RED** My fasting blood sugar is more than 300mg/dL or less than 60mg/dL
  - Call your doctor’s office immediately. Your diabetes needs urgent attention!

**EATING HEALTHY WITH DIABETES**

- Healthy eating habits can make a big difference and help you to feel better.
- Avoid sugary drinks, including juice and soda.
- Try to establish a routine or schedule and eat at least 3 meals every day.
- Eat healthy carbohydrates (such as fruits and grains) with each meal.
- Practice good portion control. Don’t over eat.

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**Example Diabetes Discharge Instructions**

- Your diabetes provider is ____________________ He/she can be reached at ____________________
- Your follow-up appointment is ____________________ (date) at ____________________ (time).
- Please call at least 24 hours in advance if you need to change this appointment.

**CONTACT YOUR DOCTOR OR DIABETES PROVIDER IMMEDIATELY IF:**

- You cannot eat or you are vomiting more than 1 time in a day.
- Your blood glucose is above 240 mg/dl two times in one day.
- Your blood glucose is less than 70 mg/dl two times in one day.
- Your meter states “high”.

If you are new to this provider and you do not have a doctor, call ____________________ if you have questions about your blood glucose or diabetes medications before your follow-up appointment.

The American Diabetes Association recommends that all people with diabetes see a diabetes educator after a hospital stay. You can call ____________________ to schedule an appointment.

- Your A1C result is ____________________ %. The A1C measures your average blood glucose for the past 2-3 months. Diabetes is diagnosed when the A1C is 6.5% or higher. The goal A1C for most people with diabetes is less than 7%, but your goal may be higher or lower. You should ask your diabetes provider what your goal is.

- You should check your blood glucose ____________________ times a day at the following time(s) ____________________

- Your recommended goal blood glucose range is ____________________

**When you are ready for hospital discharge, but before leaving the hospital:**

1. Make sure you have prescriptions for all new medications that you need to take at home.
2. If you do not have a glucose meter at home, request prescriptions for a meter, test strips, and lancets.
3. Ask your nurse or pharmacist to show you how to use a glucose meter, if you do not know.
4. If going home on insulin, make sure you have a prescription for pen needles or syringes. Ask your nurse or pharmacist to show you how to administer insulin, if you do not know.

**Diabetes medications that you will take at home:**

<table>
<thead>
<tr>
<th>Name</th>
<th>Dose</th>
<th>When to Take</th>
<th>Possible side effects</th>
</tr>
</thead>
</table>

---


Follow up appointment

- Know who the diabetes provider is:
  - Primary care provider
  - Endocrinologist
  - Nephrologist
- Ideally schedule the appointment prior to discharge
- Order sets and safety checklists can be useful
Example Discharge Checklist

<table>
<thead>
<tr>
<th>Survival skills</th>
<th>Date completed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Met with dietician to discuss consistent eating habits and basic meal planning.</td>
<td></td>
</tr>
<tr>
<td>Stated when blood glucose should be monitored and the goal home blood glucose range.</td>
<td></td>
</tr>
<tr>
<td>Demonstrated correct use of glucose meter, including use of lancet device.</td>
<td></td>
</tr>
<tr>
<td>Stated symptoms and treatment of hypoglycemia (if being discharged with insulin or an oral agent that causes hypoglycemia.)</td>
<td></td>
</tr>
<tr>
<td>Stated criteria for when the diabetes provider should be called and when to seek emergency care.</td>
<td></td>
</tr>
<tr>
<td>Repeated back name(s), dose(s) and administration time(s) for all discharge diabetes medications.</td>
<td></td>
</tr>
<tr>
<td>Demonstrated correct use of insulin pen or insulin vial/syringe, and described injection site rotation, proper insulin storage, and proper disposal of needles and syringes (if being discharged with insulin.)</td>
<td></td>
</tr>
<tr>
<td>Access to medications and supplies</td>
<td></td>
</tr>
<tr>
<td>Has insurance coverage and/or means to afford and obtain all discharge diabetes medications and supplies. (Patient-specific coverage/cost of different brands and different types of insulin [pen vs. vial] is variable across insurance plans and locations.)</td>
<td></td>
</tr>
<tr>
<td>Has a working glucose meter at home or given a prescription for a new meter, strips, and lancets.</td>
<td></td>
</tr>
<tr>
<td>Has all discharge diabetes medications available at home or given prescriptions for diabetes medications.</td>
<td></td>
</tr>
<tr>
<td>Received prescription for syringes or insulin pen needles (if new prescription for insulin given.)</td>
<td></td>
</tr>
<tr>
<td>Access to follow-up care and education</td>
<td></td>
</tr>
<tr>
<td>Stated who to call with issues, problems, or questions about the diabetes care plan.</td>
<td></td>
</tr>
<tr>
<td>Has follow-up appointment with the outpatient diabetes provider scheduled.</td>
<td></td>
</tr>
<tr>
<td>Has (or was given information to make) an appointment for comprehensive diabetes self-management education with a certified diabetes educator.</td>
<td></td>
</tr>
</tbody>
</table>

Donihi, *Curr Diab Rep* 2017 17:52
Virginia Mason Discharge Checklist

**Does this patient have diabetes and/or hyperglycemia**
Yes No

**Diagnosis Controller**
- will need to add diagnosis of Type I Diabetes, Type II Diabetes, or Hyperglycemia

**Hemoglobin A1c Measured**

The American Diabetes Association recommends that hemoglobin A1c level should be measured at hospital admission if hyperglycemia is present, or if history of diabetes mellitus exists and high A1c value (within last 30 days) is not available for review.

<table>
<thead>
<tr>
<th>Reason not measured</th>
<th>Recent Transfusion</th>
<th>Hospice Care</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Comfort measures</td>
<td>Other</td>
</tr>
<tr>
<td></td>
<td>Patient left AMA</td>
<td></td>
</tr>
</tbody>
</table>

**Hemoglobin A1c Control (labs pulled from record)**

- For most patients, a hemoglobin A1c of <7 is acceptable.
- For patients with an A1c >6, please consider de-escalating medication regimen.

<table>
<thead>
<tr>
<th>Above Goal</th>
<th>At Goal</th>
<th>Below Goal</th>
</tr>
</thead>
</table>

**Medications**

Are any new medications being prescribed for diabetes?
Yes No

- For patients with Type 1 Diabetes, a full basal-bolus insulin regimen or insulin pump is required.
- For patients with Type 2 Diabetes:
  - Metformin is first line therapy (unless contraindicated)
  - For patients with a HbA1C >10, insulin will be required to achieve A1c of <7
- Please educate patients regarding any new medications during review of the medication reconciliation.

Does the patient have prescriptions for lancets, test strips, needles, or glucometer?
Yes No

- Confirm that all patients with diabetes have a functional glucometer, the appropriate test strips and lancets

Follow up appointment documented:
Who will be following your diabetes (pre-filled from intake power form or left blank to fill): ___

<table>
<thead>
<tr>
<th>Reason follow up not documented</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transferred to another hospital</td>
</tr>
<tr>
<td>D/c to SNF</td>
</tr>
<tr>
<td>D/c to Med Rehab</td>
</tr>
<tr>
<td>D/c to hospice</td>
</tr>
<tr>
<td>PT left AMA</td>
</tr>
<tr>
<td>Pt refused to seek f/u</td>
</tr>
<tr>
<td>Other</td>
</tr>
</tbody>
</table>

*The 2016 American Diabetes Association Practice on Standard of Diabetes Care: Transition from Acute Care Setting recommends a follow up visit with a diabetes provider (primary care, endocrinologist, or diabetes educator) within one month of discharge.

*Have following statement pushed to the discharge instruction form as MISC instruction*

"Dr. (name of physician listed in power form or above) is your diabetes provider. You need an appointment for diabetes care within one month of discharge."

**Patient Education** (auto populate from bundles already ordered—should include)

RN will address:
- Diet
- Medications
- Activity
- What to do if symptoms worsen
- Follow up with provider
- Blood glucose monitoring

Pt teaching ordered?

<table>
<thead>
<tr>
<th>Yes—order exists</th>
</tr>
</thead>
<tbody>
<tr>
<td>No, Cerner to generate order</td>
</tr>
<tr>
<td>No, not appropriate</td>
</tr>
</tbody>
</table>

Reason for DM teaching not ordered

View only—RN teaching for DM bundles—this encounter only
Diabetes Transition Bundle

- ANP-IDE led diabetes transition care program for veterans with poorly controlled DM which included inpatient DM education, postdischarge telephone call and opportunity for a face-to-face clinic visit. (retrospective, N=40)
  - 30% relative risk reduction in 30-day readmission rates
    (10% cohort vs 14.3% all patients with DM)

Key Learnings

• Medication reconciliation is an essential component, but not sufficient, in safe transitions
• Therapy must be tailored to the individual patient and mutually agreed upon
• A successful discharge plan also includes
  • DM self-management education
  • Clear DM specific instructions provided to patient AND next provider
  • Reliable access to medications and supplies
  • Timely follow up
Thank You