OBJECTIVES

- Pharmacist
  - Describe challenges diabetic patients face upon hospital discharge
  - Discuss strategies for effective discharge planning for diabetic patients
- Technician
  - Recognize common medications used in the outpatient management of diabetes.
  - Describe the role a pharmacy technician may have in the management of diabetes in an outpatient setting.

OUTPATIENT MANAGEMENT OF DIABETES

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OUTPATIENT BLOOD GLUCOSE GOALS

- **A1C**
  - less than 7% for the general population
  - more stringent:
    - short duration of diabetes, long life expectancy, no significant CVD
  - less stringent:
    - history of severe hypoglycemia, limited life expectancy, advanced microvascular or macrovascular complications, extensive comorbid conditions, and those with longstanding diabetes in whom the general goal is difficult to attain
- Preprandial Blood Glucose (BG): 70–130 mg/dl
- Peak postprandial BG: 180 mg/dl

BLOOD GLUCOSE MONITORING

- Insulin pump or multiple daily injections (MDI)
  - three or more times daily
- Less frequent injections and/or oral meds
  - no specific guidelines
  - metformin alone: none to 4 times weekly
  - metformin + sulfonylurea: once daily
  - NPH twice daily/glargine once daily: once to twice daily

MONITORING EDUCATION

- Monitoring requires education!
- How: proper instruction on monitor use
- When: determined by therapy and patient
  - may be quite different than inpatient monitoring
- Why: what to do with the results
  - hypoglycemia: Rule of 15
  - hyperglycemia: lifestyle changes and meds
- Record results

BLOOD GLUCOSE AND A1C

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<th>A1C (%)</th>
<th>Mean plasma glucose (mg/dl)</th>
<th>Mean plasma glucose (mmol/l)</th>
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DISCHARGING THE PATIENT WITH DIABETES

CONTINUITY OF CARE
- PCP or specialist identified to provide follow up
- Follow up within 15 to 30 days
- Follow up within 7 to 14 days if new to insulin
- Discharge information on when to check BG and timing of insulin administration.
- Information should also include parameters for when to call PCP
- Communication to patients' PCP regarding changes made to patients' treatment regime during hospitalization and a complete medication list
- An assessment of the need for home health care

PATIENTS PREVIOUSLY DIAGNOSED WITH DIABETES PRIOR TO HOSPITALIZATION: A1C <7%
- Return to previous therapy

PATIENTS PREVIOUSLY DIAGNOSED WITH DIABETES PRIOR TO HOSPITALIZATION: A1C >7%
- Opportunity to intensify therapy

TREATMENT STRATEGIES
- A1C: 7 – 8%: Increase dose of home oral agents, add third agent or add basal insulin at bedtime
- A1C > 8%: If already on two oral agents, add once daily basal insulin at bedtime
- A1C 9-10%: Discharged home on basal and bolus insulin regime. Use the amount of basal insulin required in the hospital as once daily glargine/detimer or bid NPH dose. Continue multiple daily dose as started in the hospital if appropriate.
- Twice daily premixed insulin should be considered for less complex insulin regimens particularly in elderly patients.

IF NEW TO INSULIN
- Referral to an outpatient diabetes education program shortly after discharge to discuss ongoing diabetes control
- Discharge information on when to check BG and timing of insulin administration. Information should also include parameters for when to call PCP
- Communication to patients' PCP regarding changes made to patients' treatment regime during hospitalization and a complete medication list
- An assessment of the need for home health care
NEWLY DIAGNOSED DURING HOSPITALIZATION

A diabetes education plan should be developed for each patient prior to hospital discharge that address the following:

- Understanding related to 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

PRACTICAL CONSIDERATIONS

- Rx counseling!
  - continue meds at home or use new regimen or both
- Rx provided
  - patient may not follow up with provider before current meds run out
- Instruction and patient demonstration of device use
- Got needles for that insulin pen?