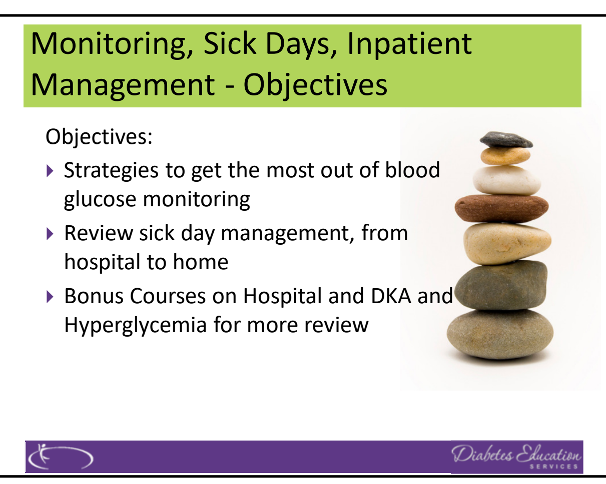
Welcome Everyone

- Sign-In
- Enjoy Breakfast
- Meet someone new
- Enter Raffle
- Pick a team name
- Please silence phones
- We start at 8:00am



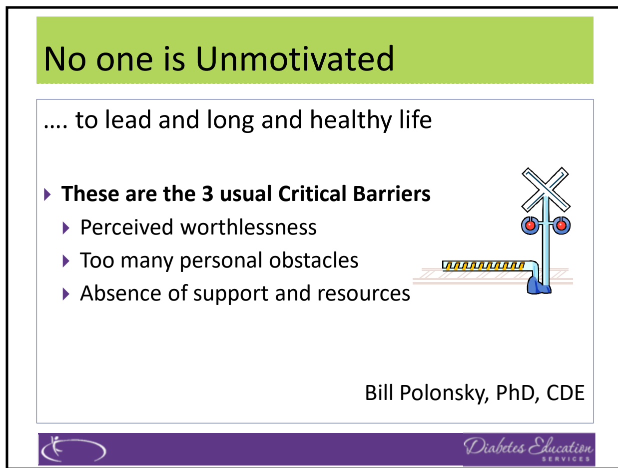
Monitoring, Sick Days, Inpatient Management - Objectives

Objectives:

- Strategies to get the most out of blood glucose monitoring
- Review sick day management, from hospital to home
- Bonus Courses on Hospital and DKA and Hyperglycemia for more review

Mrs. Jones has new diabetes. She asks you:

- What is type 2 diabetes?
- Will this go away?
- Will I get complications?
- Will I need to take diabetes medication for the rest of my life?
- How come I got diabetes?
- Do I have to check my blood sugars?



How Often Should I Check?

- Be realistic!!
- Type 2 on orals – Medicare covers 100 strips for 3 months
- Based on individual - Consider:
  - Types and timing of meds
  - Goals
  - Ability (physical and emotional)
  - Finances / Insurance

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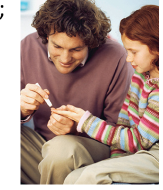
ADA Guidelines

- Self monitoring before: meals, snacks, bedtime
- Occasional postprandial and before exercise
- When patient suspects hypoglycemia; after treating hypoglycemia
- Before critical tasks such as driving
- May need to test more depending on activity level, frequency of eating.
- Be practical, no two patients or two days are alike



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Glucose Monitoring Baseline Learning

- Care for meter and test strips
- Perform quality control
- Proper disposal of lancets
- Identify BG target and when to test
- Recording and interpreting data
- 800 number
- Adequate sample
- **User Error most common reason for inaccurate results**

Diabetes Education Services

Alternate Site Testing?

- Yes
  - Finger fatigue
  - No risk of hypo
  - Stable BG Levels
  - If BG< 90, recheck on finger
- No
  - Pregnant
  - On intensive insulin therapy
  - During hypoglycemia
  - During illness
  - *Not as accurate during glucose fluctuations*

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Quick question

- JR has type 2, is 82 yrs old and gets the flu. Creat is 1.2, A1c is 7.3%. Not hungry, has diarrhea and fever. BG ranging from 150-200. On 70/30 units insulin BID. What is the best advice?

- A. Continue to take insulin
- B. Hold insulin
- C. Only drink non-caloric beverages
- D. Instruct pt to take an anti-diarrheal med

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Sick Day Patient Guidelines

- Continue to take diabetes medication, may need adjust dose down or **up***
- Test glucose at least every 4 hrs
- Drink plenty of liquids
- Rest
- Contact physician
- Plan ahead
- Check urine ketones, if BG >240 & ill

*If at risk of dehydration, hold metformin

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Sick Day Guidelines Reasons to Call Provider

- Vomiting more than once
- Diarrhea > than 5x's or for > 24 hrs
- Difficulty breathing
- Blood glucose > than 300mg/dl on 2 consecutive readings
- Temperature > 101 F.
- Positive ketones in urine.

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Hospital Admit Necessary

- JR has type 2, is 82 yrs old and gets pneumonia. Not eating well and BG levels in the 300s. Is admitted to hospital.

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Hospitals and Hyperglycemia – What's the Big Deal?

- Hyperglycemia is associated with increased morbidity and mortality in hospital settings.
  - Acute Myocardial Infarction
  - Stroke
  - Cardiac Surgery
  - Infection
  - Longer lengths of stay

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ADA Goals and Treatments For Hospitalized Patients

Non Critically Ill pts if BG 180 +

- Start subq insulin
- Blood glucose goals:
  - 140 - 180
- Basal /bolus Insulin preferred treatment

Critically Ill pts

- Start insulin therapy at BG 180
- Once insulin started, BG goal 140-180
- Insulin drip preferred treatment

- Goal of <140 may be appropriate for selected patients

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AACE Glycemic Targets in Noncritical Care Setting

- Maintain fasting and preprandial BG <140 mg/dL
- Maintain random BG <180 mg/dL
- Modify therapy when BG <100 mg/dL to avoid risk of hypoglycemia
- More stringent targets may be appropriate in stable patients with previous tight glycemic control
- Less stringent targets may be appropriate in terminally ill patients or in patients with severe comorbidities

Moghissi ES, et al. *Endocrine Pract.* 2009;15:353-369.
Umpierrez GE, et al. *J Clin Endocrinol Metab.* 2012;97:16-38.

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Steps to Prevent Hypo

- If fasting BG < 100, consider adjusting basal insulin
- If patient has renal failure, conservative insulin dosing required
- Patient has N/V or not consistent eater?
  - Give bolus insulin after meals
- Anticipate events that put pt at risk of hypo:
  - NPO for surgery, decreasing steroid dose, improving infection, recovering after cardiac event
  - Strive to admin the least amount of insulin necessary to reach glycemic targets

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JR is on Insulin - Now What?

- Nurse had an emergency and pt already ate lunch?

- Nurse administered insulin and pt only ate a few bites of turkey and drank non sugar tea?
- You just gave 3 units of Novolog and patient needs to go to OR NOW!

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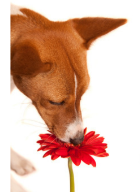
Is Inpatient Diabetes Education Realistic?

- Unique opportunity to address urgent learning needs
- Brief and targeted education effective
- Strategies
  - Empathic listening and open ended questions
  - "What are you most worried about when it comes to taking care of your diabetes.
- Assist w/ needed supplies and referrals



Look for "teaching moment" opportunities

General Recommendations

- Diabetes discharge planning starts on admit
- Type of DM clearly identified / documented
- Check A1c in hospital:
  - If no A1c available for past 3 months
  - Present with hyperglycemia and no DM history
- Pts with new hyperglycemia need appropriate follow-up testing care and testing at d/c

Topics to Cover in Hospital

- Survival Skills
  - Diabetes, self-monitoring, BG Goals
  - Hypo & Hyper – recognition, treatment and prevention
  - Healthy eating
  - Meds- how to take, potential side effects and action
  - Proper use and disposal of needles and syringes
- ID of health care provider for post d/c care
  - Schedule for f/u visit within 1 month
  - Parameters of when to call for help
    - Sick days, N/V, if BG < 70 or > 300

MNT In Hospital Setting

- Goal of MNT
  - Optimize glycemic control
  - Adequate calories for metabolic demands
  - Create meal plan guidelines for post discharge
- Consistent Carb Meal plan most common
- RD responsible for integrating pts clinical condition to determine a realistic plan for MNT
- RD referral inpt > outpt

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JR Ready for Discharge

- JR has type 2, is 82 yrs old and has recovered from pneumonia and is ready for discharge.

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Medication Reconciliation

- Pts meds must be crossed-checked to make sure no chronic meds were stopped
- Ensure the safety of new prescriptions
- New or changed prescriptions reviewed with pt/ family before discharge
- Avoid complex insulin regimens for those with limited cognition
  - As pt heals, remind them that they may need less insulin / diabetes meds to control BG
  - Supplies for insulin administration

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Bottom Line

- 30-40% of hospitalized patients have diabetes
  - 10% aren't officially diagnosed
- Cardiovascular disease is the leading cause of hospitalization for people with diabetes
- Look for patients with hyperglycemia and cardiometabolic risk factors: smokers, HTN, central obesity, abnormal lipids, Acanthosis.
- Provide education and promote self-advocacy

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Thank You

- Please email us with any questions.
- info@diabetesed.net
- www.diabetesed.net
- Join our Preparing for CDE Exam on April 30th

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