Diabetes Management in Health Care: Whose Responsibility is it Anyway?

Objectives

• Participant will define the difference in diagnosis and treatment between Type 1 and Type 2 diabetes
• Participant will define 3 diabetes medications and their mode of action
• Participant will define 2 symptoms and treatments of hypo & hyperglycemia

Prediabetes

~79 million American adults (1 in 3), ≥ 20 years old with pre-diabetes in 2010
• 50% >65 years old have prediabetes

• Risk of Type 2 development can be reduced up to 58% with these interventions:
  • Lose 7% of total body weight
  • Reduce dietary fat
  • Consume 14 grams of dietary fiber/1,000 calories consumed
  • Consume one-half of grain intake from whole grains
  • Increase physical activity to ≥150 minute/week
  • Moderate Alcohol intake (1-2/day)
  • Annually monitor individuals with prediabetes for diabetes development
Diabetes Statistics

- **25.8 million people have diabetes**
  (8.3% of the U.S. population)
- **DIAGNOSED 18.8 million people**
- **UNDIAGNOSED 7.0 million people**
- 1 in 7 Americans has DM
  – ~25% of LTC residents have DM
- By 2050, 1 in 3 Americans could have DM

Diabetes Management in LTC

- 1) Establish treatment goals
- 2) BG testing frequency
- 3) Provide good nutrition
- 4) Provide good oral care
- 5) Provide DM meds as ordered
- 6) Assess and prevent hyperglycemia
- 7) Assess, treat and prevent hypoglycemia
- 8) Provide good foot and skin care
- 9) Provide specialty services for mouth, eyes, feet, mental health when needed
Diabetes Diagnosis

<table>
<thead>
<tr>
<th>Diagnosis</th>
<th>Fasting Test ≥8 hours</th>
<th>Casual Test</th>
<th>A1C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>≥126 mg/dL</td>
<td>≥200 mg/dL (2 hr. OGTT or with classic symptoms)</td>
<td>≥6.5%</td>
</tr>
<tr>
<td>Prediabetes</td>
<td>100-125 mg/dL (IFG)</td>
<td>140-199 mg/dL (after 2 hr. OGTT) (IGT)</td>
<td>5.7-6.4%</td>
</tr>
<tr>
<td>Normal</td>
<td>≤99 mg/dL</td>
<td>≤139 mg/dL</td>
<td>≤5.6%</td>
</tr>
</tbody>
</table>

Case Study

- JM:
  - BMI 66, African American, HTN, Sleep Apnea, TG 170's, on Zyprexa
  - 1500 ADA Diet for weight loss
  - BG tested annually
    - 2005 FBG 115
    - 2009 FBG 82
    - 2012 FBG 130 & 118
    - 2013 FBG 138 & 198
- What is her diagnosis?

Natural Progression of Type 2

- Cells produce right amount of insulin
- Very little insulin made—increased insulin needed
- Insulin needed
- Insulin made
- Increased insulin resistance + decreased insulin production
- Pancreas no longer puts out enough insulin (DM)
Diabetes Types

<table>
<thead>
<tr>
<th>Type 1</th>
<th>Type 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Insulin deficiency&lt;br&gt; - Immune system destroys insulin producing cells of pancreas&lt;br&gt; - Injected insulin needed&lt;br&gt; - Can occur at any age&lt;br&gt; - 5-10% of those w/DM&lt;br&gt; - Formerly called IDDM/Juvenile DM</td>
<td>• Insulin Resistance&lt;br&gt; - Reduced insulin production OR body can’t use insulin properly&lt;br&gt; - Can occur at any age&lt;br&gt; - 90-95% of those w/DM&lt;br&gt; - Formerly called AODM/NIDDM</td>
</tr>
</tbody>
</table>

Fact or Fiction?

• Type 2 is the mild form of DM and Type 1 is the really serious one.

Answer: Fiction

Check Your Blood Sugar

“As you can see, your wife left a few messages reminding you to check your blood sugar.”
When To Test

<table>
<thead>
<tr>
<th>Drug Type</th>
<th>Testing Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>Insulin</td>
<td>BID: varied times before meals, HS</td>
</tr>
<tr>
<td>Oral Agents</td>
<td>2x/week: varied times before meals, HS</td>
</tr>
<tr>
<td>Additional Testing</td>
<td>Illness, surgery, stress, suspected low or change in condition</td>
</tr>
</tbody>
</table>

Blood Glucose Goals

<table>
<thead>
<tr>
<th>Time</th>
<th>ADA Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre Meal</td>
<td>90-130 mg/dL</td>
</tr>
<tr>
<td>Postprandial 1-2 hours</td>
<td>&lt;180 mg/dL</td>
</tr>
<tr>
<td>Hgb A1C</td>
<td>&lt;7%</td>
</tr>
</tbody>
</table>

Blood Glucose goals are individualized—discuss with your Health Care Provider


January 2013

A1C Goals

As A1C increases, FBS is more of the contributing factor
Case Study

- GF:
  - Type 1 diabetes
  - Testing Fasting BG only
  - A1C 9.8% (272 BG)

- Is there a problem with this situation?

- Who’s Responsibility Is It Anyway?

Treatment Options

What Happens When We Eat?
Cell

Insulin attaches to the cell

Insulin opens the cell

Glucose enters the cell to provide energy

Carbohydrates

Food

Glucose

Energy

What to Eat

• Carbohydrates
  – Should provide 50-60% of total calories
  – Most people require 30-75 grams per meal and 15-30 grams per snack
    • Distribute evenly throughout the day
  – Consistency more important than the source
    – Not < 2 carb/meal (30 grams)
    • Brain needs ~9 carb servings/day (~132 gm)
  – Eat every 4-6 hours -- DON’T SKIP MEALS

What’s a Carb?
• Carbohydrate Choices
  – Grains, Bread, Cereal, Starchy Vegetables
  – Milk, Yogurt, Pudding, Ice Cream
  – Fruit
  – Sweets

1 carbohydrate choice = 15 grams

What’s Not a Carb?
• Meat/Protein
  – Beef, Chicken, Pork, Fish, Eggs, Peanut Butter, Cottage Cheese, Cheese
• Fat
  – Butter, Margarine, Cream, Nuts, Seeds, Sour Cream, Salad Dressing, Mayonnaise

Too Much Carb Intake
**Not Enough Carb Intake**

**Consistent Carb Intake**

**What counts as a carb serving (~15 grams)?**

<table>
<thead>
<tr>
<th>Bread/Starch</th>
<th>Fruit</th>
<th>Milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 slice bread</td>
<td>1 small whole fruit</td>
<td>1 c white milk</td>
</tr>
<tr>
<td>¾ c cold cereal</td>
<td>½ grapefruit</td>
<td>1 c low fat</td>
</tr>
<tr>
<td>½ c hot cereal</td>
<td>½ banana</td>
<td>yogurt</td>
</tr>
<tr>
<td>½ c pasta</td>
<td>1 c melon</td>
<td></td>
</tr>
<tr>
<td>1/3 c rice</td>
<td>1 c berries</td>
<td></td>
</tr>
<tr>
<td>½ c starchy veg</td>
<td>½ c juice</td>
<td></td>
</tr>
</tbody>
</table>
What counts as a carb serving (~15 grams)?

Other Carbohydrates

- ½ cup ice cream: 4 oz regular pop
- ¼ cup sherbet: 8 oz sports drink
- 2” piece of unfrosted cake: 1 Tbls sugar
- 1 oz (~12) potato chips: 1 Tbsp syrup
- 1 fun size candy bar: 1 Tbsp jam or jelly
- 2 small sandwich type cookies

Putting it Together

BREAKFAST

<table>
<thead>
<tr>
<th>Item</th>
<th>Carbohydrate(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Orange Juice 4 oz</td>
<td>1 carb choice</td>
</tr>
<tr>
<td>Oatmeal 1 c</td>
<td>2 carb choices</td>
</tr>
<tr>
<td>WW Toast 1 slice</td>
<td>1 carb choice</td>
</tr>
<tr>
<td>Margarine 1 tsp</td>
<td>1 fat choice</td>
</tr>
<tr>
<td>Egg 1</td>
<td>1 protein choice</td>
</tr>
<tr>
<td>Skim Milk 1 c</td>
<td>1 carb choice</td>
</tr>
</tbody>
</table>

TOTAL: 5 carb choices (75 gm)

Consistent Carbohydrate Meal
Benefits of Counting Carbs

- Flexibility
- Seeing effects of food on BG
- Enjoying an occasional “goody”
- Improved BG control
- Improved insulin dosing

Geil, PB. Sugars & Starches & Fibers, Oh My! Basic Carbohydrate Counting. 2005

Determining Amount of Carbs per Meal

Dependent on age, height, weight, activity level

<table>
<thead>
<tr>
<th>Population</th>
<th>Carb choices per meal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inactive women</td>
<td>2-4</td>
</tr>
<tr>
<td>Active women or inactive men</td>
<td>3-5</td>
</tr>
<tr>
<td>Active men</td>
<td>4-6</td>
</tr>
<tr>
<td>Carb choices (snack)</td>
<td></td>
</tr>
<tr>
<td>Between meal or HS Snacks</td>
<td>1-2</td>
</tr>
</tbody>
</table>

3 Carb Sample Meal Pattern

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch</th>
<th>Supper</th>
</tr>
</thead>
<tbody>
<tr>
<td>2 starch</td>
<td>2 starch</td>
<td>2 starch</td>
</tr>
<tr>
<td>1 milk</td>
<td>1 non-starchy veg</td>
<td>1 non-starch veg</td>
</tr>
<tr>
<td>0-1 oz protein</td>
<td>2 oz protein</td>
<td>3-4 oz protein</td>
</tr>
<tr>
<td>0-1 fat</td>
<td>1-2 fat</td>
<td>~2 fat</td>
</tr>
<tr>
<td>3 Carb</td>
<td>1 fruit</td>
<td>1 milk</td>
</tr>
</tbody>
</table>

• Snacks: 1 fruit + 1 milk/yogurt
Thickeners

- Consider carbohydrate content of thickener
  - 8 oz Nectar thick water has 8 gm carb
  - 8 oz Honey thick water has 12 gm carb
  - 8 oz Pudding thick water has 16 gm carb
- Consider carbohydrate content in pre-thickened liquids

Food Labels

Fact or Fiction?

- As long as the item is sugar free, the person with DM can have as much as they desire.

Answer: Fiction
Food Labels

- Check serving size
- Check total gm of carbohydrate
- Don’t focus on sugar
- Fiber counts
- Sugar free carb free

Counting Carbohydrates

<table>
<thead>
<tr>
<th>Total Carb (g)</th>
<th>Carb Servings</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-5</td>
<td>Free</td>
</tr>
<tr>
<td>6-10</td>
<td>½</td>
</tr>
<tr>
<td>11-20</td>
<td>1</td>
</tr>
<tr>
<td>21-25</td>
<td>1 ½</td>
</tr>
<tr>
<td>26-35</td>
<td>2</td>
</tr>
<tr>
<td>36-38</td>
<td>2 ½</td>
</tr>
<tr>
<td>40-49</td>
<td>3</td>
</tr>
<tr>
<td>50-54</td>
<td>3 ½</td>
</tr>
<tr>
<td>55-64</td>
<td>4</td>
</tr>
<tr>
<td>65-69</td>
<td>4 ½</td>
</tr>
<tr>
<td>70-80</td>
<td>5</td>
</tr>
</tbody>
</table>

Treatment Options

- Blood Glucose Control
- Medications
- Activity

Medications
Exercise Benefits

• Improves blood glucose
• Improves blood pressure
• Improves lipid levels
• Decreases fat around organs
• Promotes weight loss
• Reduces cardiovascular risk
• Improves insulin sensitivity

Exercise Recommendations

• ≥150 min/wk moderate-intensity aerobic activity spread over ≥3 days/wk with no more than 2 consecutive days without exercise
• Resistance training ≥2 times/wk

Older Adult Exercises

• Swimming and aerobic exercises
  – 10-30 minutes, 5 days/week
• Strength and resistance training
  – 8-10 rep’s every other day that target major muscle groups
• Balance exercises
  – 3 days/week
• Core stability to stabilize movement
• Flexibility exercises
  – 2 days/week for 10 minutes


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Older Adult Exercises

- Walk in halls, outside, in a swimming pool
- Chair or wheelchair exercises
- Walking up and down stairs
- Ball toss
- Exercise videos
- Use elastic bands
- Arm raises
- Leg raises
- Weights

Treatment Options

<table>
<thead>
<tr>
<th>Food</th>
<th>Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blood Glucose Control</td>
<td>Medications</td>
</tr>
</tbody>
</table>

Diabetes Medications

**Oral**
- Help body cells use insulin better
- Help pancreas release more insulin
- Make liver release less glucose into the bloodstream

**Injectable**
- Improve insulin release from the pancreas
- Make liver release less glucose into the bloodstream
- Slow stomach emptying
- Decrease appetite
- Injected daily, twice daily or weekly
### Diabetes Medications

#### Sulfonylureas
- Pancreas
- Hypoglycemia, wt gain
- Avoid w/liver, renal Dz
- Targets FBG, PPG
- Initial dose at ½ usual
  - Glucotrol/Glipizide
  - Least hypoglycemia
  - Glucotrol XL/Glipizide XL
  - Risk of hypoglycemia
  - Diabeta/Glyburide
  - Amaryl/Glimepiride

#### Biguanides
- Liver, muscle
- Nausea, diarrhea
- Lactic Acidosis
- Avoid w/age 80+, GFR <60 mL/min/1.73m²
- Decreased B12 levels
- Targets liver FBG
  - Glucophage/Metformin
  - Glucophage XR/Metformin ER
  - Riomet (liquid form)

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Incretin/DPP-4 Connection

- **GLP-1**: (Incretin Hormone) Released from small intestine when eating
  - Reduces appetite
  - Regulates gastric emptying
  - Promotes insulin production
  - Prevents liver glucose release
- **DPP-4**: (Protein) Breaks down GLP-1
  - Prevents overproduction of insulin
- Insufficient incretins with Type 2 → ↑ BG

Diabetes Medications

### Incretin Analogs

- Pancreas, liver, small intestine, brain
- Not broken down by DPP-4
- Injected (protein), for T2
- Weight loss, nausea, cardioprotective, ↑ INR
- MTC, ↑ pancreatitis, pancreatic CA
- Targets FPG & PPG
  - Byetta/Exenatide (BID)
  - Victoza/Liraglutide (QD)
  - Bydureon/ (weekly)

### DPP-4 Inhibitors

- Pancreas, liver
- Inhibit enzymes that break down GLP-1
- For Type 2
- OK w/kidney problems, elderly
- Targets PPG
  - Januvia/Sitagliptin
  - Onglyza/Saxagliptin
  - Tradjenta/Linagliptin
  - Nesina/Alogliptin

### Amylin Analog

- Co-secreted with insulin:
  - Lacking or deficient with DM
  - Rapid gastric emptying, glc release from liver
- Liver, small intestine, brain
- For Type 1 or Type 2 on insulin
- Injected before meal with ≥250 Kcal OR 30g CHO
- Avoid w/gastroparesis Dx, hypoglycemia
- Targets PPG
  - Symlin/Pramlintide
Fact or Fiction?

- Use of insulin indicates that one has the “worst type” of diabetes.

**Answer:** Fiction

---

**Insulin**

<table>
<thead>
<tr>
<th>Basal</th>
<th>Bolus/Prandial</th>
</tr>
</thead>
<tbody>
<tr>
<td>– A low level of continuous insulin</td>
<td></td>
</tr>
<tr>
<td>» ~50% of insulin need</td>
<td></td>
</tr>
<tr>
<td>– Suppresses hepatic glucose production between meals, overnight</td>
<td></td>
</tr>
<tr>
<td>» Targets FBS</td>
<td></td>
</tr>
<tr>
<td>– Intermediate &amp; Long-acting</td>
<td></td>
</tr>
<tr>
<td>– A burst of insulin, often before meals</td>
<td></td>
</tr>
<tr>
<td>» 10-20% of insulin need at each meal</td>
<td></td>
</tr>
<tr>
<td>» Reduces PPG</td>
<td></td>
</tr>
<tr>
<td>» Rapid &amp; Short-acting</td>
<td></td>
</tr>
<tr>
<td>» Premixed: Basal &amp; Bolus mixed</td>
<td></td>
</tr>
</tbody>
</table>

---

**Insulin Action Profile**

<table>
<thead>
<tr>
<th>Insulin</th>
<th>Starts</th>
<th>Peaks</th>
<th>Stops</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BOLUS</strong> Humalog NovoLog Apidra</td>
<td>5-15 minutes</td>
<td>1-2 hours</td>
<td>3-4 hours</td>
</tr>
<tr>
<td><strong>BOLUS</strong> Regular</td>
<td>30-45 minutes</td>
<td>2-5 hours</td>
<td>5-8 hours</td>
</tr>
<tr>
<td><strong>BASAL</strong> NPH Lantus Leveimir</td>
<td>2-4 hours</td>
<td>4-8 hours</td>
<td>10-16 hours</td>
</tr>
<tr>
<td></td>
<td>2 hours</td>
<td>flat</td>
<td>14-24 hours</td>
</tr>
</tbody>
</table>
**Insulin**

- Avoid in elderly
- Risk of hypoglycemia without improving hyperglycemia
  - Creates erratic BG control
- Not supported by current literature
- Looks at ~6 hours prior BG value
- Doesn’t provide basal coverage
- No standardized clinical protocols exist
- Meant for short-term
- Initiated at BG > target
- Convert to fixed insulin dose after 1 wk

**Sliding Scale Insulin**

- Avoid in elderly
- Risk of hypoglycemia without improving hyperglycemia
  - Creates erratic BG control
- Not supported by current literature
- Looks at ~6 hours prior BG value
- Doesn’t provide basal coverage
- No standardized clinical protocols exist
- Meant for short-term
- Initiated at BG > target
- Convert to fixed insulin dose after 1 wk

**Correction Factor**

- Calculates insulin sensitivity
- Corrects high/low BG prior to the meal
- Typically initiated when BG 30-50 points +/- target range
- Does not cover meals
  - Bolus insulin does this
- Supplemental Regular or Rapid-acting insulin used
Correction Factor Example

- Take 1 unit of insulin for every 50 points in BG greater than 150
- 100-150 = 0 units
- 151-200 = 1 unit
- 201-250 = 2 units

- Joe takes 3u Humalog before meals
- Premeal BG is 187
- Joe takes 4u insulin
  (3u as ordered + 1 extra unit for CF)

Case Study

- SW:
  - On Lantus & Humalog
  - Humalog given before breakfast
  - SW chose to go back to bed without eating
- Is there a problem with this situation?
- Who’s Responsibility Is It Anyway?

Fact or Fiction?

- People with DM have to eat an HS snack or their BG will drop too low overnight.

  Answer: Fiction
Tube Feedings

- Match medication amount and action time to amount of carb consumed
- Specialized formulas for DM aren’t required
- Options for continuous feeding on insulin
  - Basal insulin at HS (Lantus, etc.)
  - NPH every 12 hours
  - Regular insulin every 6 hours
- Options for nocturnal feeding on insulin
  - NPH at supper-time
  - Mixed insulin at supper-time

Hyperglycemia

Typical Symptoms
- Excessive hunger
- Excessive thirst
- Excessive urination
- Dry mouth and skin
- Fatigue
- Weight loss

Possible Symptoms in Elderly
- Blurred vision
- New or increasing confusion
- Lethargy
- Weakness
- Weight loss
- Worsening incontinence
- Fruity breath

Typical Causes
- BG levels kept purposely high to avoid lows
- Eating more CHO than usual
- Activity < normal
- Not taking enough DM meds
- Stress, depression
- Infection/Illness
- Some medications
- Sleep deprivation

Medical Causes
- Obesity
- Pancreatic diseases
- Pancreatitis
- Endocrine diseases
- Cushing’s syndrome, hyperthyroidism
- Genetic syndromes
- Down Syndrome, Huntington’s chorea

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Medical Causes
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- Pancreatic diseases
- Pancreatitis
- Endocrine diseases
- Cushing’s syndrome, hyperthyroidism
- Genetic syndromes
- Down Syndrome, Huntington’s chorea
**Meds That Can Increase BG**

- Steroids
- Thiazides
- Antipsychotics
- Estrogen
- Thyroid hormones
- Dilantin
- Ca++ Channel Blockers
- Opiates
- Niaspan
- Protease Inhibitors
- Echinacea

**Hyperglycemia**

**Concerns**

- Increased infections
- Poor healing wounds
- Poor mouth/dentition
- BG > 200 mg/dL for extended period
  - Heart Attack/Stroke
  - Neutropathy
  - 20-40% of elderly
  - Nephropathy
  - Retinopathy
  - Effects 40-50% of DM population

**Treatment**

- Increase BG testing
- Check for ketones
- Monitor vitals
- Increase fluid intake
- Monitor po and urine output
- Call provider per protocol

**HHNS vs. Ketoacidosis**

<table>
<thead>
<tr>
<th>Onset</th>
<th>Type 1 DKA</th>
<th>Type 2 HHNS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms</td>
<td>Thirst, Need to urinate, Dry Mouth, Blurred Vision, Very Tired, Ketones, Nausea &amp; Vomiting, Fruity breath, Stomach Pain, Weakness</td>
<td>Less GI symptoms, Dehydration, Sluggish, Kussmaul’s respirations absent, Confusion May mimic CVA</td>
</tr>
<tr>
<td>Glucose</td>
<td>&lt;600 mg/dL</td>
<td>&lt;800 mg/dL</td>
</tr>
<tr>
<td>Treatment</td>
<td>Insulin Always required Rehydration</td>
<td>Insulin often required</td>
</tr>
<tr>
<td>Mortality</td>
<td>3-10%</td>
<td>10-20%</td>
</tr>
<tr>
<td>Precipitating Factors</td>
<td>Illness, insulin, stress</td>
<td>Illness, fluid loss, hypertonic feeding, impaired thirst</td>
</tr>
</tbody>
</table>
**Hypoglycemia**

**BG < 70 mg/dL**

- **Typical Symptoms**
  - Confusion
  - Blurred vision
  - Sweaty/clammy
  - Shaky
  - Rapid heartbeat
  - Tingly lips
  - Irritable/anxious

- **Possible Symptoms in Elderly**
  - Confusion, disorientation
  - Poor concentration
  - Drowsiness
  - Aggression, altered behavior/personality
  - Falls
  - Hallucinations

- **Causes**
  - Skipping, delaying or eating less carb than usual
  - ETOH intake without food
  - Being more active than usual
  - Taking too much DM medication
    - Rapid/short-acting insulin too long before meals
  - Vomiting, acute diarrhea

- **Concerns**
  - Poor physical, mental performance
  - Impaired judgment
  - Mood changes
  - Weight gain
  - Seizures
  - Loss of consciousness
  - Death

---

**Case Study**

- **SW:**
  - Found confused & sweaty in her bed
  - BG tested – 62
  - Treated with 4 Glucotabs, 1 whole sandwich (3 slices turkey, 1 slice cheese, 2 slices Light bread)
  - BG re-tested 20’ later – 57
  - Treated with 1 Glucotab, 1 apple

- **BG re-tested 15’ later – 70**
  - Nurse suggested 1 slice bread + PB
  - Is there a problem with this situation?
  - Who’s Responsibility Is It Anyway?
Hypoglycemia

- Treatment Plan
  - Rule of 15
    - Eat 15 g Simple Carbohydrates
      - ½ c juice or regular soda pop
      - 1 c skim milk
      - 1 Tbls honey or sugar
      - 3-4 glucose tabs
    - Wait 15 minutes
    - Repeat if BG <70
  - Weight Gain
    - With treatment of frequent lows
    - Call provider if unresponsive or consecutive lows
    - Glucagon for severe reactions

Hypoglycemia Prevention

- Test BG regularly to find patterns, possible causes
- Provide consistent amounts of carb at consistent times
- Provide alternate carb when resident doesn’t eat as usual
- Provide HS snack if problems occur during night
- Educate family about S/S, treatment and reporting of lows
- Contact physician for change in treatment plan based on occurrence number, severity

Dealing With Diabetes

- Denial, disbelief, disconnect
  - There must be a mistake -- I feel fine
  - Someone made an error
- Resistance
- Anxiety
- Nervous
- Scared
- Angry
Life With Diabetes

- “My sugar level is on my mind every second of the day.”
- “I hate it so much it really depresses me.”
- “Every day I wonder if this is the day I die from diabetes.”
- “This disease is manageable, but it still sucks.”
- “I think diabetes helped me turn my life around.”

Mental health issues

- 1 in 6 Americans have depression
- People with Type 2 DM are at a 54% greater risk of developing depression than those without DM
- People with a depression and DM have a higher Hgb A1C

Look on the Bright Side. Progress in Defining and Treating Depression, Erika Gebel, PhD. Diabetes Forecast, April 2013

Monitoring

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Suggested Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>A1C</td>
<td>*Every 3 months if poorly controlled</td>
</tr>
<tr>
<td></td>
<td>*Every 6 months if controlled</td>
</tr>
<tr>
<td>Dental</td>
<td>*Daily oral cares</td>
</tr>
<tr>
<td></td>
<td>*Routine dental services as needed</td>
</tr>
<tr>
<td>Depression</td>
<td>*Annually</td>
</tr>
<tr>
<td>Foot Exam</td>
<td>*Daily by resident, weekly by caregiver, at practitioner visits</td>
</tr>
<tr>
<td>Lipids</td>
<td>*Annually if appropriate</td>
</tr>
<tr>
<td></td>
<td>*6 weeks with Tx change, initiation</td>
</tr>
<tr>
<td>Urine Microalbumin</td>
<td>*Every 6 months if &gt;300 ug/mg</td>
</tr>
<tr>
<td></td>
<td>*Annually if &lt;30 ug/mg</td>
</tr>
<tr>
<td>Weight</td>
<td>*Monthly (more frequently if &gt;5% change)</td>
</tr>
<tr>
<td>24-hour urine pro/creat clearance</td>
<td>*If significant decline in renal function</td>
</tr>
</tbody>
</table>

Managing Diabetes in the Long-Term Care Setting. Clinical Practice Guidelines. amda
**DM Management in Elderly**

- Establish FBS and/or PPD targets and A1C
- Maintain adequate nutritional status
- Preventative foot, oral and skin care
- Control symptoms
- Delay onset of DM complications
- Maximize functional status and increase physical activity within the resident’s ability and comorbidities
- Initiate medication intervention as appropriate

**Diabetes Management in Health Care.**

**Who’s Responsibility is it Anyway?**

**Activities & Volunteers**

- Engage residents in daily exercise
- Provide physical social activities
- Assist in transferring clients to the dining room
- Provide appropriate snacks at activities
  - Or non-food activities ☺️
Registered Dieticians

- Nutrition Assessment
- Determine Nutrition Plan
- Develop menus & meal plans
- Develop an education strategy

Nursing

- Monitor Blood Glucose levels
- Administer medications
- Encourage patients to eat their meals
- Encourage activity
- Educate resident, family
- Notify practitioner as appropriate

Physicians

- Take appropriate action to resident, staff concerns
- Treat BG based on health, life expectancy
- Refer resident to specialists as appropriate
Administrators

- Get out of your office
- Talk to staff and residents daily
- Address staff and resident concerns
- Insure disciplines carry out their responsibilities
- Provide training and education for staff as needed

Diabetes:
Who’s Responsibility Is It Anyway?

It belongs to ALL of us!!!

Resources

- American Diabetes Association  [www.diabetes.org](http://www.diabetes.org)
- Joslin Diabetes Center  [www.joslin.org](http://www.joslin.org)
- American Association of Diabetes Educators  [www.diabeteseducator.org](http://www.diabeteseducator.org)