OBJECTIVES

1. Discuss the management of hypoglycemic events using a standardized universal protocol.

2. Discuss the critical components to include in your educational plan for the patient with diabetes.

3. Discuss methods for teaching your patient the “survival skills” needed to optimally manage his/her diabetes at home.

DISCLOSURE STATEMENT

- No conflict of interest
**HYPOGLYCEMIA**
- Definition: Depends on the symptoms rather than the actual blood glucose number
  - Mild
  - Severe

Placing person at risk of social embarrassment, injury/accident, brain damage, and death

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**PATHOPHYSIOLOGY**
- Glucose is the primary fuel for the human body
- Glucose is critical for brain function
- Brain does not store or synthesize glucose
- Symptoms of hypoglycemia are activated by the sympathetic nervous system (adrenergic symptoms) or from an abrupt cessation of glucose delivery to the brain (neuroglycopenic symptoms) or both
- Insulin excess, pharmacokinetics of insulin, and other factors: food intake, exercise, drug interactions, insulin clearance, and sensitivity to insulin
When choosing treatment for hypoglycemia, ask yourself ...

- What are the blood glucose results?
- Can the patient swallow safely?
- What kind of carb should I give?
- Recheck the blood glucose after giving appropriate carbs.
- Have the patient consume a meal within 30 minutes. If hospitalized and a meal is not scheduled within 30 minutes, call the kitchen for early delivery of the next meal.
- Document what occurred.

Blood glucose results: treatment of hypoglycemia

- Treat blood glucose less than 70 mg/dL with 10-15 grams of carbohydrate
- If blood glucose is less than 50 mg/dL, administer another 10-15 grams of carbohydrate
Assess Ability to Swallow

- If the patient is able to swallow safely, give the carbohydrate orally.

- If the patient is unable to swallow safely, is unconscious or uncooperative, or is NPO, and has IV access, give 25 ml of D50 IV.

- If the patient is unable to swallow safely, is unconscious or uncooperative, or is NPO, and does not have IV access, give 1 mg of glucagon.
  - Glucagon may be given IM or subcutaneously.

What Carb Should Be Used?

Food List
(15 gram portions)
- Glucose gel (one tube)
  OR
  - 8 ounces of milk
  - 1 package of graham crackers
  - 3 packages of saltines
  - 1 slice of bread
  - 1 container of jello
  - 1/2 container of sherbet
  - 1 container of ice cream
  - 4 ounces of juice preferable for children less than 2 years of age
ONE STUDY FOUND...

- Anthony (2007) found in retrospective chart review adherence to protocol was 3 - 17% with the correct carbohydrate given

- Hyperglycemia was a common outcome of treatment with the incorrect carbohydrate. Post treatment blood glucose levels ran as high as 394 mg/dL.


RECHECK THE BLOOD GLUCOSE

- Retest the blood glucose 15 - 20 minutes following treatment with a suitable carbohydrate.

- If the blood glucose remains low, repeat the treatment until the blood glucose is above 70 mg/dL.

- "Rule of 15s"

MEAL WITHIN 30 MINUTES

- The glycemic response to oral glucose is transient, typically less than 2 hours. Therefore, a meal shortly after the blood glucose has recovered is advisable.

NOTIFY THE PHYSICIAN

- Notify the physician after following the protocol because the patient's diet and dose of insulin or oral hypoglycemic agents should be reviewed and adjusted as needed.
- Study done by Anthony (2007) found:
  - 51-71% of the time
  - Documentation of hypoglycemic events occurred only
  - Documentation of physician notification occurred 15-28% of the time


WHAT WOULD YOU DO?

- Patient's chemstrip 51. OJ with sugar given. Patient has Lantus 24 units to be given. Dr. ---- notified of data and ordered 10 units with healthy size snack for tonight and recheck during the night. Snack given to patient.
- Patient states she is feeling "hot and foggy." Patient suspects hypoglycemia. Bedside glucose check 56. Patient ate a cookie and is drinking fruit juice at this time. Will recheck chemstrip per protocol. Patient denies other complaints.

WHAT WOULD YOU DO?

- Patient is feeling hypoglycemic. Chemstrip was 58. Treated per protocol with glucose gel. Recheck chemstrip 15 minutes later and it was 65. Treated again with glucose gel. Rechecked in 15 minutes and chemstrip was 99. Dr. ---- notified and will continue to monitor.
- Patient's HS blood glucose level 53 @ 2026. Spoke with Dr. ---- at 2036 to inform him. Received order to give half an amp of D50 IV and to start an IV of D50/50 at 75 ml/hour. Also received an order to hold patient's morning dose of Lantus. Blood glucose rechecked and increased to 113 at 2048. VSS. IV started. Will continue to monitor.
PREVALENCE OF IN-HOSPITAL HYPOGLYCEMIC EVENTS

- Has not been well studied
- Factors contributing in the hospital:
  - Insulin dose
  - Renal insufficiency
  - Decreased caloric intake due to:
    - Nausea and lethargy
    - NPO for surgery or diagnostic test
    - Tube feedings
    - Meals not being delivered

IMPORTANT TO REMEMBER

- Document all oral intake: Carbohydrates ingested
- Standardization of treatment with the protocol

CRITICAL COMPONENTS OF EDUCATION

Defined by the ADA (2014)
1. Who will provide care post discharge
2. Knowledge of the disease, self management, goals for blood glucose levels
3. Hypo and hyperglycemia: definition, symptoms, treatment, and prevention
4. Importance of consistent eating patterns
5. When and how to take blood glucose
6. Sick day care
7. Proper use and disposal of needles and syringes (if used)
WHAT PROVIDER WILL BE CARING FOR THE PATIENT AFTER DISCHARGE

- Be sure the patient knows who (s)he will be seeing and when the appointment will be occurring

ASSESS YOUR PATIENT’S KNOWLEDGE: DIAGNOSIS

- Definition
  - Type 1 – The body makes little or no insulin
  - Type 2 – The body makes insulin but it does not work the way it should or the body does not make enough insulin

ASSESS YOUR PATIENT’S KNOWLEDGE: SELF MANAGEMENT

- Self management
  - Healthy eating
  - Being active
  - Monitoring blood glucose
  - Taking medications
  - Problem solving
  - Reducing risk
ASSESS YOUR PATIENT’S KNOWLEDGE: BLOOD GLUCOSE GOALS

- ADA recommends
  - Before meals: 70 – 130 mg/dL
  - 1 – 2 hours after a meal: less than 180 mg/dL

HYPO AND HYPERGLYCEMIA

- Definitions
  - Hypo - low blood glucose
  - Hyper - high blood glucose
- Symptoms
  - Hypo - hunger, shakiness, dizziness, sweating, irritability, headache
  - Hyper - thirst, frequent urination
- Treatment
  - Hypo - “Rule of 15”
  - Hyper - test blood glucose more often, follow your meal plan, call provider if it continues to be high
- Prevention
  - Hypo - make sure accurate medication delivery, no skipped or delayed meals, do not increase activity without eating
  - Hyper - too little medication or not taking on time, eating too much, sickness, stress, infection

CONSISTENT EATING PATTERN

- Importance
- Planning ahead
WHEN AND HOW TO TAKE BLOOD GLUCOSE

- Frequency of taking blood glucose
- Demonstrate the steps

SICK DAY CARE

- Hard to keep the blood glucose in target range
- High blood glucose
- Unable to eat or drink liquids
- Test blood sugar often
- Do NOT stop taking your insulin or diabetes oral agents
PROPER USE AND DISPOSAL OF NEEDLES AND SYRINGES

- Use sharps container or put in a covered puncture-proof container.

EDUCATING PATIENTS

- Nursing is defined as a discipline that treats the human response to an illness or disease.
- Nurses are liaisons between people and their experience of change.
- A liaison connects two or more separate entities so they work together.
- Teaching is a trait of nursing which means it is an instinctive part of a person.


EDUCATING PATIENTS (CONT.)

- View teaching as one of the tools that nurses use to accomplish therapeutic goals.
- You teach as you:
  - Deliver medication
  - Provide emotional support
  - Perform a dressing change
  - Comfort fears
  - Prepare a patient for a test/procedure/surgery
  - Feed a patient
  - Walk a patient
GOAL OF EDUCATION

- Enable the learner to:
  - Make informed decisions
  - Develop basic self-care skills to survive
  - Recognize problems and know what to do in response
  - Get questions answered and find resources for answers

“Give a man a fish and he will eat for a day. Teach a man to fish, he will eat for a lifetime.”
Confucius 551-479 BC

ASSESSING WHAT THE LEARNER KNOWS

- What does the learner know now?
- What does the learner need to know?
- How does the learner best learn?
- What does the learner believe he/she is capable of doing?
- What is the learner’s ability to learn?
- Do not make assumptions!
SELF-EFFICACY

- Definition: learner believes he/she can do the task at hand.
- If the learner does not believe he or she can do the task, address the lack of belief first.
- Help the learner build confidence before facing the task.

TIPS TO USE WHILE EDUCATING

- Use nonjudgmental language
- Avoid negative words
- Use a patient-centered approach
  - What is the patient mainly concerned about?
  - Focus on the patient’s concern
- Empathetic listening
- Ask specific, but open-ended questions

EXAMPLES OF OPEN-ENDED QUESTIONS

- What are you most worried about when it comes to taking care of your diabetes?
- What one thing will you do differently when you get home?
- On a scale of 1-10 how would you rate the way you eat for your diabetes?
- At what time of the day could you take a walk and with whom?
KEY POINTS

- Human beings change one behavior at a time
- People respond more positively to compliments
- Asking good questions and listening are keys to all patient interactions
- A good question to ask is: “What have you heard about taking care of diabetes?”

MOTIVATIONAL INTERVIEWING

- Motivational interviewing is a clinical communication skill to elicit a person’s personal motivations for changing behavior to promote health.
- Collaborative partnership.
- Explore patient’s understanding, motivation, confidence, and roadblocks to change.
  - By asking evocative questions, acknowledging patient autonomy and personal responsibility, and reserving judgment.


GOAL OF MOTIVATIONAL INTERVIEWING

- Break down overwhelming behavioral change into manageable tasks to help patients gain confidence to carry out treatment recommendations step-by-step

“The secret of getting ahead is getting started. The secret of getting started is breaking your complex overwhelming tasks into manageable tasks, and then starting on the first one.”

MARK TWAIN

GENERAL PRINCIPLES

- Express empathy: Rephrase the patient's comments to reflect understanding.
- Highlight discrepancies: Help the patient become aware of the gap between current behavior and goals.
- Roll with resistance: Accept patient ambivalence.
- Support self-efficacy: Encourage optimistic belief in prospect of change.

Empathy is...

seeing with the eyes of another,
listening with the ears of another,
and feeling with the heart of another.
CHANGE IS HARD

- Highlight past successes
- Raise patient confidence
- Support self efficacy
- Empathy paramount to establishing rapport

IDENTIFYING AMBIVALENCE

- Listen for “yes but…”
  - I know I need to lose weight, but I just love sweets.
  - I want to take my medication, but I hate the way it makes me sleepy.
  - I need to start exercising, but I can’t seem to find the time.
  - Everything after the “but” is the patient’s road block.

CHANGE TALK

- Express desire: “I want to…”
- Ability: “I can…”
- Reasons to change: “I want to…”
- Need: “I have to…”
GOAL SETTING
- Specific
- Measurable
- Attainable
- Time-dependent
- Relevant to the patient

No single approach addresses all educational pitfalls:
- Equip the patient with knowledge about his/her condition
- Address underlying causes of patient’s inability to carry out what is necessary due to attitude and behavior
Study done in 1987 by Kathryn Rost found that:

- "Patients remember and understand less than half of what a clinician explains to them."


A way to confirm that you as the nurse have explained to the patient what they need to know in a manner that they understand.

- Patient’s understanding is confirmed when they explain back to you what was heard.

... “the degree to which individuals have the capacity to obtain, process and understand basic health information and services needed to make appropriate health decisions.”

**Keep in Mind …**

- Teach-back is not a test of the patient’s knowledge, but a test of how well you have explained the concepts.
- Useful with everyone, especially if someone is struggling.
- A chance to check understanding and, if necessary, to “re-teach” the information.

**Always**

- Use plain language
- Slow down
- Break it down into short sentences
- Focus on 2 or 3 most important concepts

**Statements**

- “I want to be sure I explained your medications correctly. Can you tell me how you are going to take this medication?”
- “We covered a lot today about your diabetes, and I want to make sure that I explained things clearly. So let’s review what we discussed. What are three strategies that will help you control your diabetes?”

Useful with everyone, especially if someone is struggling.
QUESTIONS TO ASK

- **What** - Knowledge
- **Why** - Attitude
- **How** - Behavior

“**WHAT**” QUESTIONS

- “What blood sugar result is considered a low blood sugar?”
- “What are the signs of low blood sugar?”
- “What steps would you take if your blood sugar was low?”
- “What is the name of your diabetes medicine and how does it work?”
  
  Lehigh Valley Health Network, Allentown, PA

“**WHY**” QUESTIONS

- “Why is it important to carry something with you to treat a low blood sugar?”
- “Why is it important to learn how to check (monitor) your blood sugar at home?”
- “Why is it important to know your safe (target blood sugar) range?”
- “Why is it important to know how your diabetes medicine works?”
  
  Lehigh Valley Health Network, Allentown, PA
“HOW” QUESTIONS

- "How will you remember to take your diabetes medicine at home?"
- "How will you check for signs that your blood sugar is low?"
- "How can you prevent low blood sugar?"
- "How will you be prepared to treat low blood sugar once you are at home?"

SUMMARY

- Hypoglycemia protocol
- "Survival education" needs of patient who is living with diabetes
- Approaches to teaching:
  - Motivational interviewing
  - Teach back

IN CONCLUSION...

- Thank you

- Questions???
REFERENCES: WEBSITES
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- American Diabetes Association www.diabetes.org
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  www.diabetes.niddk.nih.gov

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