



CONVERSATIONS *in MOTION*

HYPOGLYCEMIA



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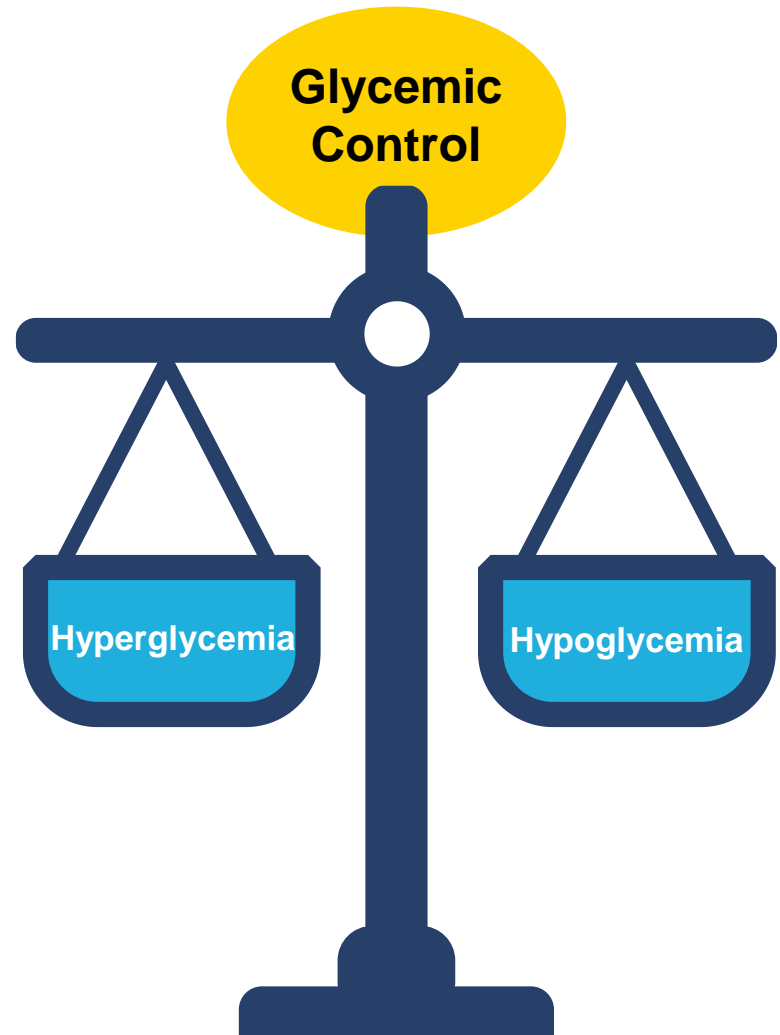
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Discussing Hypoglycemia in Clinical Practice



Challenges of Hypoglycemia

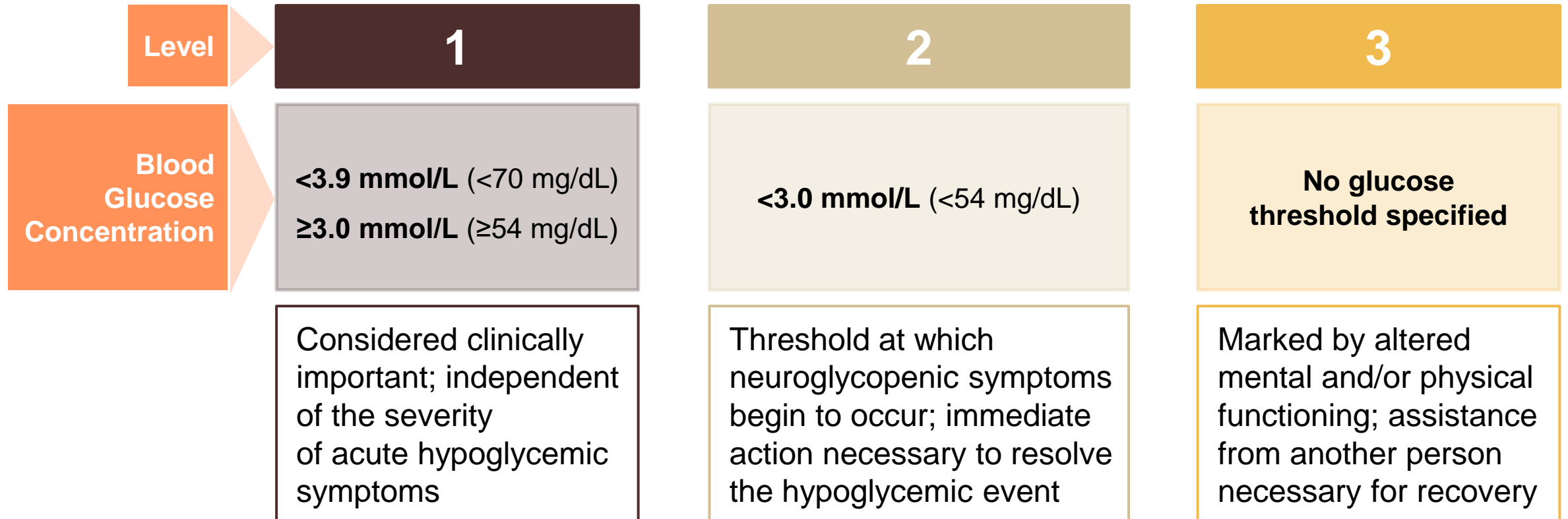


- About one-third of people with type 1 diabetes experience an average of 1-3 episodes of severe hypoglycemia each year¹
- People treated with insulin for type 2 diabetes experience about 1 episode of severe hypoglycemia each year¹
- Hypoglycemia is a major limiting factor in glycemic control for people with insulin/insulin secretagogue-treated type 1 and type 2 diabetes²
- Fears or concerns regarding hypoglycemia impact the²:
 - Ability to optimize treatment (underdosing of insulin)
 - Quality of life; for example, ability to travel or work

1. International Hypoglycemia Study Group. *Diabetes Care*. 2015;38(8):1583-1591.

2. Diabetes Canada Clinical Practice Guidelines Expert Working Group; Lega IC, et al. *Can J Diabetes*. 2023;47(7):548-559.

Hypoglycemia Severity¹

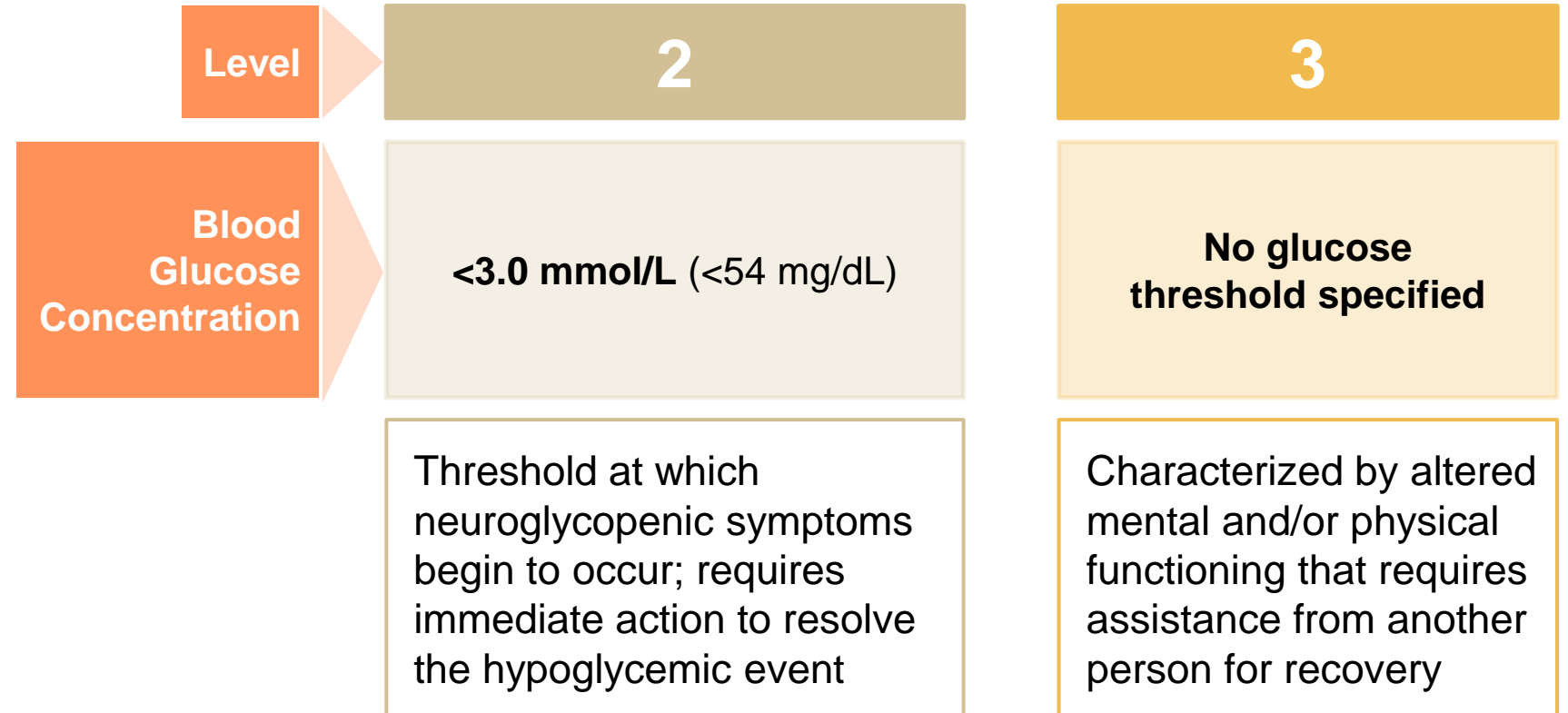


1. American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S111-S125

Hypoglycemia Preparedness¹

Any person with diabetes can experience hypoglycemia, so they should be prepared

- Preferably use glucose, or any form of carbohydrate that contains glucose, to treat a conscious individual with BG <70 mg/dL (3.9 mmol/L)
- Use glucagon for those unable or unwilling to consume oral glucose. Glucagon should be prescribed for all individuals taking insulin or who are at a high risk for hypoglycemia.



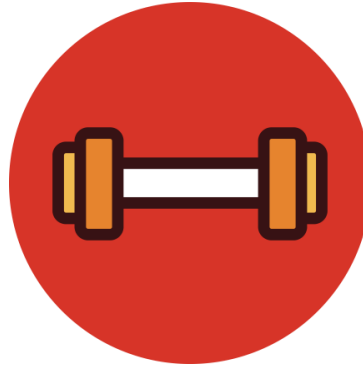
BG=Blood Glucose.

1. American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S111-S125.

Common Precipitating Factors for Hypoglycemia¹⁻⁴



Eating Behavior



Exercise



**Timing and Dose
of Insulin**



Alcohol Consumption



Illness/Sick Days

1. <https://www.diabetes.org/diabetes/medication-management/blood-glucose-testing-and-control/hypoglycemia> (Accessed January 24, 2024).
2. <https://www.niddk.nih.gov/health-information/diabetes/overview/preventing-problems/low-blood-glucose-hypoglycemia>. Updated July 2021. (Accessed January 24, 2024).
3. American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S111-S125.
4. International Hypoglycemia Study Group. *Diabetes Care*. 2015;38(8):1583-1591.

Module Outline

Discussing Hypoglycemia in Clinical Practice



**Setting Agenda
for Visit**



**Open-ended, Probing
Questions**



**Shared Decision
Making**



**Setting Goals and
Patient Collaboration**

Meet Nicole



Age, Sex

- 13 years, female

Medical History

- T1D
- Difficulty maintaining glycemic control
- Recent increase in insulin requirements due to onset of puberty
- Underdosing of insulin to avoid weight gain and hypoglycemia

Lifestyle Factors

- Takes responsibility for certain aspects of her own diabetes care. Her mother assists with her care and worries about her daughter
- Body changes have led to weight and body image concerns
- Avoids monitoring her BG levels when she is around friends because of embarrassment
- Is confident of managing on her own, but does not grasp the risks associated with hypoglycemia
 - Mother says she tries to give Nicole more responsibility, but it makes her feel anxious and worried
 - Mother recalls Nicole's hypoglycemic events during childhood
- Nicole feels that her mother is overreacting

Meet Liz



Age, Sex

- 75 years, female

Medical History

- T2D on premixed insulin
- A recent severe hypoglycemic event:
 - Fell in kitchen unconscious — recovered by herself
- Overweight and continuing to gain weight — overcompensating by consuming sugar when feeling dizzy
- Used to measure BG 2-3 times a day, but started checking it more often since the severe hypoglycemic event

Lifestyle Factors

- Living with her husband
- Afraid of another hypoglycemic episode
 - During the last event, she broke several glasses she was holding, resulting in several bruises; however, feels lucky that nothing worse happened
 - Has been constantly thinking about what she may have done wrongly — believes it is because she administered an insulin injection and then was distracted and did not eat
 - Now she wakes up in the middle of the night, afraid of dying in her sleep
- Hides the BG data from her husband and does not share her fears
- Is uncertain on how often to measure BG levels

Meet Chris



Age, Sex

- 35 years, male

Medical History

- T1D, and on an insulin pump
- Has had mild-to-moderate hypoglycemic events (identified by CGM data), but did not feel the symptoms
 - **He and his wife are aware about his impaired awareness**

Lifestyle Factors

- No daily routine, leads a busy lifestyle with frequent travel
- Wife regularly checks on him at night, but cannot be there for him when he travels for business
- She also receives CGM data in an app that they are sharing, and will call him if the alarm goes off
- He enjoys eating, but sometimes has difficulty finding healthy choices
- Is dedicated, and is used to manage his diabetes; however, he also wants to limit its impact on his life, especially when working or with friends
 - Wants to live a normal life without having to worry all the time
- Believes he knows more about his diabetes than his HCP

Including Hypoglycemia on the Agenda



Reflection Question



It is important to discuss symptomatic and asymptomatic hypoglycemia with your patients during every visit.

How often do you find that your patients will bring up this discussion?

Conversations Before and After Most Recent SH Event¹

	T1DM (n=110)	T2DM (n=109)
Most recent SH event was not discussed later with HCP, n (%)	49 (44.5)	39 (35.8)
Frequency of SH Discussions with HCP Before Most Recent SH Event, n (%)		
At every visit	42 (38.2)	42 (38.5)
At some visits	57 (51.8)	52 (47.7)
Never	11 (10.0)	15 (13.8)
Reasons SH event were not discussed with HCP, n (%)		
Knew the cause of the SH event	31 (66.0)	21 (55.3)
No big deal	14 (29.8)	9 (23.7)
Did not think it would happen again	5 (10.6)	5 (13.2)
Did not want to talk about it	5 (10.6)	1 (2.6)
Denominator for %	47	38

Note: Answers are not mutually exclusive.

HCP=Healthcare Provider; SH=Severe Hypoglycemia; T1DM=Type 1 Diabetes Mellitus; T2DM=Type 2 Diabetes Mellitus.

1. Snoek FJ, et al. *Clin Diabetes*. 2022;40(4):477-488.

Setting the Visit Agenda

A Visit Agenda^{1,2}



**Provides Clear
Visit Objectives**



**Organizes and
Guides Dialogue**



**Reduces Patient Questions
at Visit Conclusion**

1. Voogt SJ, et al. *Fam Pract Manag.* 2022;29(2):12-16.

2. Stacey SK, Morcomb EF. *Fam Pract Manag.* 2021;28(2):27-31.

Reflection Question



How do you ensure you know about your patients' severe hypoglycemic events?

What do your patients tell you about their experience with severe hypoglycemia? How do they react during the discussion?

Patients Who Have Experienced Hypoglycemia

Severe hypoglycemic event while at home with a caregiver¹

Had asymptomatic hypoglycemic event²

Take hypoglycemia events less seriously and avoid discussing with their physicians^{2,3}

Mixed up insulins and had an event⁴

Busy lifestyle getting in the way of prevention and management strategies⁵

Avoiding exercise and making irregular diet choices to prevent hypoglycemia⁶

Feeling unprepared, helpless, and afraid after a severe hypoglycemic event^{1,3}

Exercised more vigorously than realized and had an event^{1,2}

Did not know how often to check blood glucose^{2,3}

Had symptomatic mild-to-moderate hypoglycemic event²

Underdosing insulin to prevent hypoglycemia⁶

Had a severe hypoglycemic event requiring assistance^{1-3,5}

Unaware of how to prevent and/or manage hypoglycemia^{2,3}

Do not want it to affect lifestyle and the people in their life^{2,3}

References are provided in the speaker notes.

HCP Considerations Prior to Visit¹

Hypoglycemia to be Discussed at Every Visit



Prior to Each Visit:

- Review documentation of previous hypoglycemia discussions for history and risk of hypoglycemia
- Set hypoglycemia as a priority for the visit
- Identify potential questions to ask
 - Tailor questions to the patient
- Consider how to tailor the conversation to the patient and situation

HCP=Healthcare Provider.

1. <https://www.americannursetoday.com/hypoglycemia-diabetes-management/>. Published August 2018. (Accessed January 25, 2023).

Eliciting Patient Priorities and Setting Agenda



What are your major concerns today?

I see... Go on... Anything else?

Now let's agree on which are the most important for today's visit and a plan for addressing those we don't prioritize for today's visit.

Okay, let's review the list of concerns/questions we started with to make sure we've covered everything.

1

Start With an Open-ended Question

2

Do Not Interrupt – Use Conversation Extenders

3

Prioritize

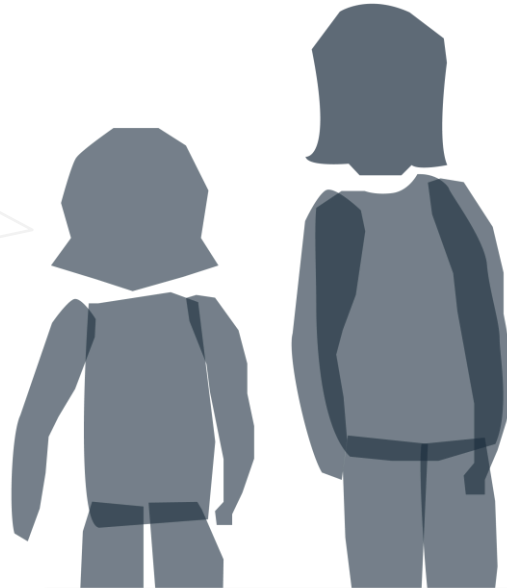
4

Document Success at Visit Conclusion

Hypoglycemia Concerns Prioritized by Patients^{1,2} (1 of 2)

The underdosing patient

How harmful is it to cut back my insulin dose every once in a while?



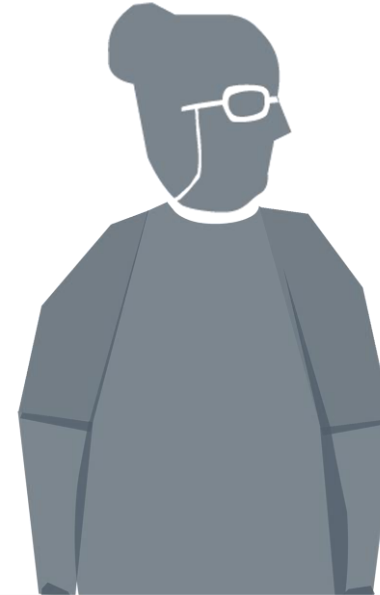
It's very important that you take the prescribed insulin dose to avoid diabetes complications that can arise from high blood sugar levels.

Let's talk about why you're thinking of cutting back your insulin in the first place.



The patient who is fearful, due to experience

I'm really worried about having another severe hypoglycemic event.



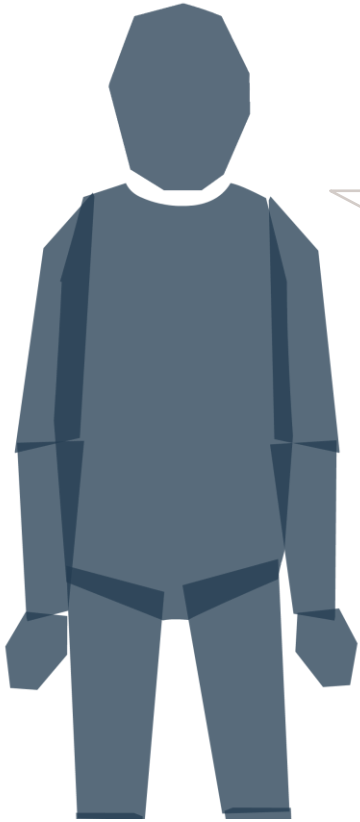
I can understand why you feel that way—it can be a scary experience. I'd like to review with you on how to recognize hypoglycemia, as well as preventive techniques and treatment preparedness so that you can avoid serious episodes and feel better equipped to manage them if they happen.



1. Przekaz A, et al. *Brain Behav.* 2022;12(7):e2633.
2. Bloomgarden Z. *J Diabetes.* 2017;9(2):108-110.

Hypoglycemia Concerns Prioritized by Patients^{1,2} (2 of 2)

The well-intentioned, busy patient



I do my best to regularly monitor my blood glucose levels and maintain a healthy lifestyle. However, I work a lot and am often traveling for business, which makes it hard to consistently take proper care of my health.

Yes, that does make it challenging. Let's talk about what this means exactly for your blood sugar levels. Afterwards, we can work together to find strategies to prevent highs and lows that better fit your lifestyle.



1. Przekak A, et al. *Brain Behav.* 2022;12(7):e2633.
2. Bloomgarden Z. *J Diabetes.* 2017;9(2):108-110.

Reflection Question



How will you establish a visit agenda that both you and your patients agree on and commit to?

Reflection Question



What kinds of questions would be useful to ask patients for eliciting more information about their hypoglycemic experiences?

Reflection Question



How can you ensure to discuss hypoglycemia with your patients at each visit?

Asking Open-ended and Probing Questions



Why Ask Open-ended and Probing Questions?^{1,2}

- Allow the HCP to gain clarity on the patient's history, goals, motivations, challenges/barriers, and concerns
- Allow the HCP to understand the bigger picture and gain more information from the questions they ask
 - Close-ended questions can be used for follow-up clarification



Close-ended

Yes/no or limited word answers



Open-ended

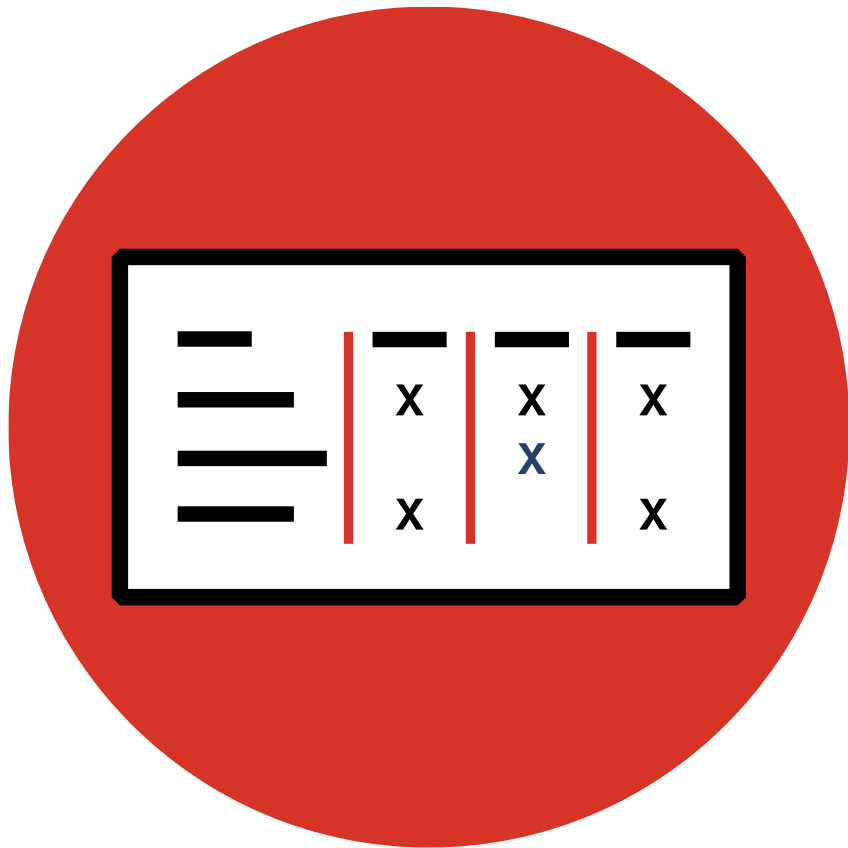
More detailed, informative response

HCP=Healthcare Provider.

1. Miller WR, Rollnick S. *Motivational Interviewing: Helping People Change*. 2012:62-64.

2. Miller WR, Rollnick S, Butler CC. *Motivational Interviewing in Health Care: Helping Patients Change Behavior*. 2008.

Probing for Important Information¹⁻³



- History and frequency of hypoglycemia^{1,2}
- Precipitating factors²
- Knowledge gaps related to insulin dosing²
- Daily routine/behavior²
- Glucose log^{2,3}
- Lack of awareness²
- Fears/concerns³
- Signs and symptoms of hypoglycemia^{2,3}
- Ability to prevent and manage hypoglycemia (for patient and/or caregiver)²

1. American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S111-S125.

2. Seaquist ER, et al. *Diabetes Care*. 2013;36(5):1384-1395.

3. https://clinical.med-iq.com/files/noncme/material/pdfs/SA332_Guide%203.pdf (Accessed January 25, 2023).

Open-ended and Probing Questions

Probing for Previous Hypoglycemic Event

Start With Open-ended Questions

When was the last time you had low blood sugar?

How did you feel when it happened?

What did you do to manage the event?

What do you think caused your blood sugar to become low?

Do you know when a low blood sugar event is starting for you?



Follow-up With Open- or Close-ended Questions, As Necessary

When did it happen?
Day or night?

Where were you?

Did someone help you?

How often do you experience events like this?

Can you rate how well you can identify the start of a low blood sugar event (Gold score)?

Open-ended and Probing Questions

Probing for Blood Glucose Monitoring

Start With Open-ended Questions

What is your routine for checking your blood sugar?

What do you do if you notice your blood sugar is too high? Too low?

Can you explain what happened the last time you had low blood sugar?



Follow-up With Open- or Close-ended Questions, As Necessary

How frequently and when do you measure your blood sugar?

How low was your reading the last time you had low blood sugar?

Reflection Question



What are some important open-ended/probing questions that you regularly ask your patients who've had a hypoglycemic event?

Reflection Question



How frequently do you ask probing questions regarding hypoglycemia?

Shared Decision Making



What Is Shared Decision Making?

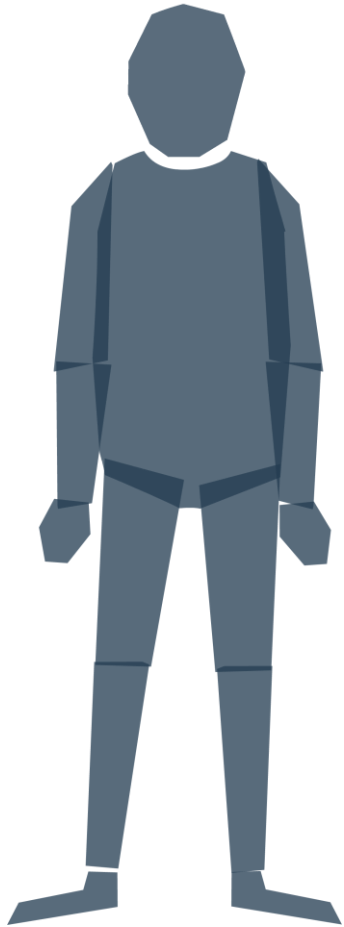


Six Steps of Shared Decision Making¹

1. Invite the patient to participate
2. Present options
3. Provide information on risks and benefits
4. Assist the patient in evaluating options based on their goals and concerns. To understand patient preferences, ask them about what is important to them
5. Facilitate deliberation and decision making
6. Assist the patient in following through on the decision

1. <https://www.aafp.org/pubs/fpm/issues/2017/0500/p5.html> (Accessed February 22, 2024).

Goals of SDM Related to Glycemic Control and Hypoglycemia^{1,2}



- Ensure the patient understands the importance of glycemic control and correct hypoglycemia prevention and management strategies
- Provide information on benefits and risks of decision
- Check for the patient's understanding of consequences and outcomes of behaviors/lifestyle choices, as well as identify their goals
- Determine what kinds of prevention and management strategies and/or treatment solutions fit their lifestyle

SDM=Shared Decision Making.

1. Tamhane S, et al. *Curr Diab Rep*. 2015;15(12):112.

2. <https://www.nice.org.uk/guidance/ng197/resources/shared-decision-making-pdf-66142087186885> (Accessed January 2, 2024).

Reflection Question



How do you discuss with patients their understanding of, prevention of, and preparation for hypoglycemia. Also, how the fear of hypoglycemia impacts their treatment?

Shared Decision-Making Technique 1

Validate and Establish Patient Preferences for Information^{1,2}

- Build a constructive relationship with the patient and set the context for decision making
- Establish patient preferences for information and identify knowledge gaps



I've noticed that since your last visit, you've been measuring your blood sugar regularly as we'd discussed—excellent job!

For this visit, I'd like to discuss hypoglycemia prevention and management strategies.

You mentioned that you feel unprepared for a hypoglycemic event and would like to know more—first, what would you like to know about preventing and managing hypoglycemia?

1. <https://www.nice.org.uk/guidance/ng197/resources/shared-decision-making-pdf-66142087186885> (Accessed January 2, 2024).

2. Elwyn G, et al. *Ann Fam Med*. 2014;12(3):270-275.

Hypoglycemia-Prevention Strategies¹ (1 of 2)

Recurrent hypoglycemia increases the risk of severe, life-threatening hypoglycemia and impaired hypoglycemia awareness



Strategies for mitigating the risk:

- Education on recognizing hypoglycemia
- Modification of diet, alcohol intake, and exercise habits
- Blood glucose monitoring
- Treatment modification and management

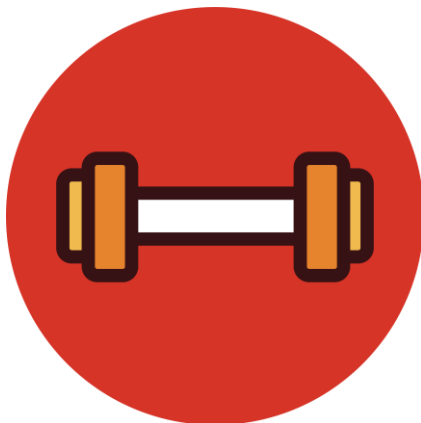
1. Seaquist ER, et al. *Diabetes Care*. 2013;36(5):1384-1395.

Hypoglycemia-Prevention Strategies¹ (2 of 2)



Diet Modification

- Recognize changes in the diet
- Inject prandial insulin in a timely manner with food consumption
- Adapt insulin dose to match carbohydrate intake



Exercise Modification

- Identify risk factors
- Monitor blood glucose
- Adjust insulin dose and snacks prior to and following exercise

1. Seaquist ER, et al. *Diabetes Care*. 2013;36(5):1384-1395.

Hypoglycemia-Management Strategies



Recognize the Symptoms¹

- Early warning signs
- Nighttime symptoms
- Severe symptoms

Management Strategy Depends on Severity^{2,3}

- Carry carbohydrate-dense snacks and glucagon
 - Oral glucose is the preferred treatment for mild hypoglycemic events
 - Commonly, 15 g of simple carbohydrates is used
 - For severe hypoglycemic events where the person is unwilling or unable to consume oral glucose, injectable or nasal glucagon can be administered by the person's HCP, caregivers, friends, family, or coworkers

HCP=Healthcare Provider.

1. <https://www.mayoclinic.org/diseases-conditions/diabetic-hypoglycemia/symptoms-causes/syc-20371525> (Accessed January 10, 2024).

2. American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S111-S125.

3. <https://diabetes.org/living-with-diabetes/treatment-care/hypoglycemia> (Accessed January 10, 2024).

Managing Severe Hypoglycemia



If the patient is unwilling or unable to consume oral glucose:

- Glucagon is indicated for the treatment of severe hypoglycemia^{1,2}
- Glucagon should be prescribed and readily available to individuals with a risk of level 2 hypoglycemia (<3.0 mmol/L [<54 mg/dL])²
- Caregivers should know where the glucagon is and be instructed on when and how to administer it. Glucagon administration is not limited to HCPs²
- All forms of glucagon can be prescribed for almost all ages^{a,3-5}
 - Intramuscular injectable glucagon
 - Subcutaneous injectable glucagon
 - Nasal glucagon

HCP=Healthcare Provider.

^aGVOKE >2 years of age; Baqsimi >4 years of age.^{4,5}

1. <https://diabetes.org/living-with-diabetes/treatment-care/hypoglycemia> (Accessed January 10, 2024).
2. American Diabetes Association Professional Practice Committee. *Diabetes Care*. 2024;47(Suppl 1):S111-S125.
3. https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/201849s005lbl.pdf (Accessed January 29, 2024).
4. <https://pi.lilly.com/us/baqsimi-uspi.pdf> (Accessed January 29, 2024).
5. https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/212097s000lbl.pdf (Accessed January 29, 2024).

Shared Decision-Making Technique 2

Ensuring Understanding of Discussion^{1,2}

Ensure the patient understands the information presented



It seems like you have a good understanding of how to maintain a healthy diet and exercise routine to keep your blood sugar in check. Also, based on your blood sugar log, I can see that you are regularly monitoring your blood sugar levels as needed. Great job!

Looking at your blood sugar measurements, and the fact that you feel afraid of another hypoglycemic event—I'd like to show you how to use glucagon. Carrying glucagon with you at all times ensures you are prepared for a severe hypoglycemic event. It's important to also teach those around you, such as your caregiver, friends, family, and coworkers about how to use the glucagon, in case of an emergency. Let me show you the steps involved in administering glucagon...

I'd also like to discuss increasing your evening insulin dose slightly. This would help prevent those blood-sugar spikes that you've been experiencing and will help prevent against the many complications that can arise when we don't manage glycemic control well.
Does this all make sense?

1. https://www.ncbi.nlm.nih.gov/books/NBK572428/pdf/Bookshelf_NBK572428.pdf (Accessed January 2, 2024).

2. Elwyn G, et al. *Ann Fam Med*. 2014;12(3):270-275.

Reflection Question



How do you empower your patients to find the motivation to make behavioral changes to improve their self-management?

Shared Decision-Making Technique 3

Discussion of Priorities and Motivation^{1,2}

- Ask the patient about what is most important to them with regards to improving their diabetes treatment and hypoglycemia prevention, and identify any barriers to achieve this
- Find what motivates your patient to want to make positive health changes



Do you think the fear of hypoglycemia is holding you back from achieving your target HbA1c? What can I do to help you get there?

What would you say is your main source of motivation for making positive changes for your health?

HbA1c=Glycated Hemoglobin.

1. https://www.ncbi.nlm.nih.gov/books/NBK572428/pdf/Bookshelf_NBK572428.pdf (Accessed January 2, 2024).

2. Elwyn G, et al. *Ann Fam Med*. 2014;12(3):270-275.

Reflection Question



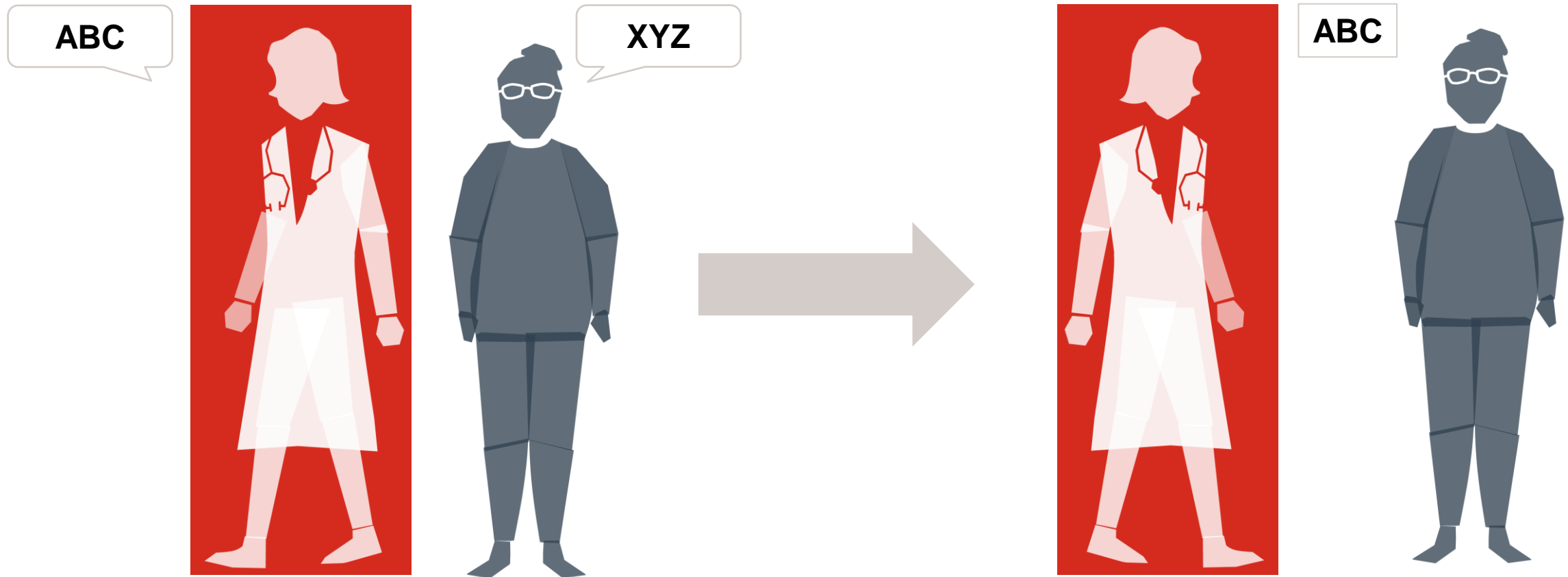
What percentage of patients do you believe implement strategies discussed for preventing of, preparing for, and managing hypoglycemia?

Setting Goals and Patient Collaboration



Co-create Goals: Rationale¹

Using Common Language to Discuss Treatment Goals Results in Greater Clarity and Impact



1. Fleming SE, et al. *Diabetes Educ.* 2013;39(6):811-819.

Co-create Goals With Patients¹



ASK

Your patients questions
about their goals



PROBE

With clarifying
questions



REPEAT

Words or expressions
you heard back
to patients



RECORD

In chart for future
exchanges

1. Fleming SE, et al. *Diabetes Educ.* 2013;39(6):811-819.

Pay Attention to Words Your Patients Use¹

ASK

PROBE

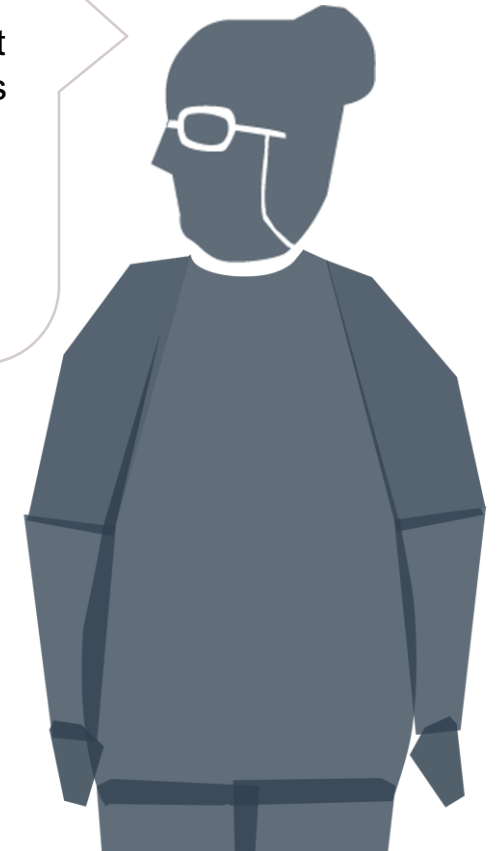


If you were going to describe how hypoglycemic events impact your daily life to a family member or friend, what would you say?

Please continue, is there anything else you would say?

I would say that I live in **constant fear** that I will experience another severe event. To avoid hypoglycemia, I often eat too much, and don't exercise as much as I'd like to, which has led me to gain weight and lose confidence. It makes it **very hard to take part in social activities**, when I am **always worrying** about my blood sugar.

I **miss the freedom** of not having to worry about how everything I do affects my blood sugar levels.



1. Fleming SE, et al. *Diabetes Educ.* 2013;39(6):811-819.

Repeat Those Same Words Back¹

REPEAT

RECORD



Let's talk about strategies for preventing and managing your hypoglycemia. Implementing these strategies will improve your glycemic control. We can customize the techniques so that you can **feel comfortable taking part in social activities** and know what to do if your blood sugar becomes low.

Without having to constantly worry about how to handle blood sugar changes, you'll be able to experience a greater sense of **freedom**.

Let's re-visit these issues during your next appointment. I'm making a note to be sure we remember.

1. Fleming SE, et al. *Diabetes Educ.* 2013;39(6):811-819.

Conclusion



You Have Now Completed the Following

Discussing Hypoglycemia in Clinical Practice



**Setting Agenda
for Visit**



**Open-ended, Probing
Questions**



**Shared Decision
Making**



**Setting Goals and
Patient Collaboration**

Key Takeaways



- Hypoglycemia is an important part of consultations
- Discussion on glycemic control and hypoglycemia is an ongoing process, with check-ins occurring at each visit
- Conversations and questions should be tailored to the patient, and open-ended questions should be used when possible
- HCPs to ensure understanding of symptom recognition, prevention, and management strategies for both patients and caregivers. They need to work collaboratively to set goals tailored to the patient's lifestyle
- Importance of follow-ups – Anything that was missed/not discussed should be on the agenda for the next visit
- Goals/commitments set through shared decision making/collaboration should be discussed at the next visit



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HYPOGLYCEMIA

