

## **What an OT can do for you-Diabetic Hypoglycemia and Aging Adults**

**Resource by Zahin Nilu on May 22, 2020**

Aging is something we cannot control but the impact of conditions that can worsen through aging might be. An estimated 33% of adults aged 65 or older have diabetes and of those people, many suffer from diabetic hypoglycemia (Halter & Corsino, 2019). Diabetic hypoglycemia is a condition where an individual with diabetes does not have enough sugar (glucose) in their blood (“Diabetic Hypoglycemia,” 2020). This condition can present itself with confusion, headache, lassitude, drowsiness, shallow respirations, tremulousness, anger, and nausea (Barney & Perkinson, 2016). Although hypoglycemia is an acute complication, it can be potentially life threatening and requires immediate and

appropriate treatment. Moreover, the condition can be a barrier in completing daily activities due to lack of energy, dizziness, and weakness (Mandrik et al., 2013).

### **Step 1: Promote healthy food choices**

As mentioned earlier, hypoglycemia is an indication of low blood sugar and to tackle this situation we must focus on a client's diet and promote healthy food choices. To promote a healthy diet, we must begin encouraging clients to eat meals and snacks on a regular schedule. Breakfast should be eaten as soon as someone wakes up because blood sugar levels can drop during the night. Lunch should be a small meal but packed with protein, healthful fats, and complex carbohydrates that will continue to release energy slowly. A person with hypoglycemia should keep their evening meals small. A good dinner choice will include protein and complex carbohydrates. Snacks should also

be incorporated between meals to keep blood sugar levels constant. Eating one snack mid-morning, another mid-afternoon, and something small close to bedtime can help keep blood sugar levels stable throughout both the day and night (Cadman, 2018).

*Here's what a healthy meal schedule and food choices can look like:*

<b>Breakfast</b>	<b>Snack-Time</b>	<b>Lunch</b>	<b>Snack-Time</b>	<b>Dinner</b>	<b>Snack-Time</b>
Hard-boiled eggs and whole grain toast	Apple with a few slices of cheddar cheese	Tuna, chicken, or tofu sandwich on whole-grain bread with salad leaves	Whole-grain crackers topped with a small can of sardines or tuna	Chicken or tofu with brown rice and vegetables	A handful of seeds
Oatmeal with berries, sunflower seeds, agave, and cinnamon	Banana with a handful of nuts or seeds	Chickpea and vegetable salad	Carrots, peppers, and cucumber dipped in hummus	Salmon with steamed vegetables or salad	A handful of nuts

Greek yogurt with berries, honey, and oatmeal	A slice of wholegrain toast with mashed avocado or hummus	Grilled fish, a baked sweet potato, and a side salad	Air-popped Popcorn	A bean stew with lentils, kidney beans, chickpeas.	A hard-boiled egg
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For more information on meal plan ideas and accessing meals checkout the following:

*-Medical News Today on What to eat for hypoglycemia*

<https://www.medicalnewstoday.com/articles/320518>

*-Suggested Meal Plan for a Hypoglycemia Diet*

<https://healthyeating.sfgate.com/suggested-meal-plan-hypoglycemia-diet-5797.html>

*-Meals on Wheels*

<https://www.mealsonwheelsamerica.org/>

**Step 2: Instruct safe and appropriate ways of exercising**

For many years there has been a misconception that exercise should be avoided for people who have diabetes due to the drop-in blood sugar. THIS IS NOT TRUE.

Here are some helpful hints to keep your blood sugar stable and get a good workout.

TIPS	WHY?
1.) Try eating more following activity and aim to eat 30-60 minutes before exercising	<b>A mix of high-fiber carbs, protein, and fat after exercise can keep blood sugar stable and eating immediately before exercise means the glucose might not get into the blood until after activity is over leading to low blood sugar.</b>

<p>2.) Try reducing bolus insulin following activity</p>	<p><b>A bolus reduction of 50% or more might be necessary to avoid hypoglycemia depending on the intensity of the workout, how sensitive an individual has become to the insulin, and what is being eaten after exercise.</b></p>
<p>3.) Experiment with different foods before exercise</p>	<p><b>Try different types of carbs, different amount of carbs and at different timings (e.g., 30 mins vs. 90 mins before) to see what helps you the most to avoid hypoglycemia.</b></p>
<p>4.) Try reducing basal insulin</p>	<p><b>A basal insulin reduction after exercise can be helpful for avoiding delayed lows. Many people experience nocturnal hypoglycemia after exercise, so a basal reduction that lasts overnight might also be needed.</b></p>

5.) Start exercise at a glucose above 180 or 140 mg/dl

**This level provides a buffer to avoid hypoglycemia. An individual might need to experiment starting at different targets (e.g., 180 vs. 140 mg/dl) to understand what helps you avoid hypoglycemia and end your workouts in your target range.**

For more information on helpful tips for exercising to maintain an appropriate blood sugar level checkout:

*-Get in the zone: Tips for avoiding hypoglycemia during exercise*

<https://diatribe.org/get-zone-my-tips-avoiding-hypoglycemia-during-exercise>

*-Tips to Control Your Blood Sugar During a Workout*

<https://www.webmd.com/diabetes/control-blood-sugar-workout>

*-How To Treat Exercise-Related Hypoglycemia*

<https://blog.johnsonfitness.com/blog/treating-exercise-related-hypoglycemia/>

### Step 3: Encourage energy conservation methods and equipment

Hypoglycemia can result in fatigue and can make it difficult for an individual to complete daily activities, especially for the elderly. Occupational therapists can recommend assistive devices to aid clients in completing activities with the use of less energy. Here are some assistive devices that can help a client complete their ADLs.

<b>Eating</b>	<b>Dressing</b>	<b>Bathing</b>	<b>Toileting</b>	<b>Grooming</b>
<b>A Rocker</b>	<b>Dressing</b>	<b>Shower</b>	<b>Bedside</b>	<b>Electric</b>
<b>Knife- This</b>	<b>Stick-</b>	<b>Chair-</b>	<b>Commode-</b>	<b>Razor-</b>
<b>device</b>	<b>This device</b>	<b>This device</b>	<b>This portable</b>	<b>This device</b>
<b>allows users</b>	<b>provides</b>	<b>allows</b>	<b>device allows</b>	<b>provides the</b>



<b>to cut fruits and vegetables with one hand and the use of less grip force.</b>	<b>opportunity for clients to complete dressing while seating to conserve more energy and avoid fatigue.</b>	<b>clients to shower while sitting to conserve more energy.</b>	<b>clients to use the toilet without walking all the way to their bathroom and conserve</b>	<b>opportunity to complete shaving without the overuse of energy.</b>
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For more information on buying and using energy conserving devices and techniques to complete your daily activities checkout:

*-Occupational Therapy & Assistive Technology for Persons with Diabetes and Visual Impairment*

<https://otswithapps.com/2019/11/23/occupational-therapy-assistive-technology-for-persons-with-diabetes-and-visual-impairment/>

*-The Rehab Store*

<https://www.rehab-store.com/>

*-Video links on how to use the devices mentioned in the chart*

<https://www.youtube.com/watch?v=tPNNdXZmAgA>

<https://www.youtube.com/watch?v=INJcmrIYy8o>

<https://www.youtube.com/watch?v=jXpKj67Zgeo>

[https://www.youtube.com/watch?v=F7A\\_J1vdqy0](https://www.youtube.com/watch?v=F7A_J1vdqy0)

<https://www.youtube.com/watch?v=4iz2TqiS4PE>

Helpful resources and ideas on what to eat and what not to eat can also be found by contacting your local dietitian. Working with a dietitian can help a client plan a healthy diet, improve blood sugar levels, lose weight, and better manage the diabetes. Moreover, A dietitian can put together a daily meal plan that considers your individual food preferences, level of physical activity and lifestyle choices (Ellis, 2019). As occupational therapists can help to teach safe exercise techniques for patients with

diabetic hypoglycemia so can physical therapists. Physical therapist can help clients participate in effective exercise programs to improve their ability to move, perform daily activities, provide customized adjunct treatments as needed, and provide safe environments for exercise (“Physical Therapy Guide to Diabetes,” 2019). A rehabilitation engineer can also provide more information on assistive devices for clients with diabetic hypoglycemia. In addition, they can customize devices for specific individuals and discuss safety methods and collaborate with occupational therapists and physical therapists to provide the best care for the client (Digiovine et al., 2018).

The meal plan, exercise tips, and energy conservation devices and techniques can assist with self-care to improve occupational engagement (“ICF,” 2017). The meal plan provides information to clients on what to eat and when to eat certain meals to decrease

the chances of hypoglycemia and complete meal tasks. Furthermore, it enables clients to look after one's health by eating healthier meals. For example, with the meal plan schedule clients can opt for healthier breakfast choices such as hard-boiled eggs and whole grain toast and this will help them stabilize their blood sugar instead of just eating a granola bar for breakfast.

The exercise tips encourage clients to stay active regardless of their fear in drop of blood sugar. These tips also help clients take care of their own health. For example, a client can take the tip of eating 30-60 minutes before completing their daily walk or a jog and still maintain a stable blood sugar throughout his/her jog and also improve their cardiovascular health, strengthen bones, and boost muscle power and endurance (“Department of Health & Human Services,” 2015).

The energy conservation devices and techniques can assist with self-care areas of washing oneself, toileting, dressing, caring for body parts, and eating. For example, the shower chair allows clients to conserve energy by sitting in the shower instead of standing and bathe themselves and complete one self-care activity. Moreover, the electric razor also assists in saving energy and easily completing the self-care activity of shaving (“ICF,” 2017).

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