## IN

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A Nutrition Module for Nurse Aides:

## Nutrition for Diabetic Clients



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## A Nutrition Module: Nutrition for Diabetic Clients

## EATING RIGHT CHANGES EVERYTHING!

Mrs. Cobb was just given a new diagnosis of diabetes. She was told to check her blood glucose level before each meal and at bedtime. She is supposed to write down her results and then, based on the results, self-inject insulin on a sliding scale.

She was given a new diet to follow that is completely different from the way she has eaten her whole life, and she is supposed to start getting some exercise each day, eliminate alcohol, protect her feet, and lose weight.
When you arrive for your visit with her, you find she is only doing her finger sticks once a day, is not writing it down, and can't recall how much insulin she has injected. She hasn't started exercising and doesn't know how to lose weight. In addition, you notice she is having a glazed donut for breakfast!

Yikes! Mrs. Cobb is overwhelmed. A new diagnosis of diabetes is huge. In most cases it means a complete lifestyle overhaul.

> Fortunately, there's one thing that most diabetics can do that will help EVERYTHING else fall into place-and that's learning how to eat right!

Following a diabetic eating plan can decrease or eliminate the need for medication and can help many clients lose the weight that may have contributed to the diagnosis in the first place.

As a nursing assistant, you are in a unique position to teach your clients with diabetes about eating right. You can help plan, prepare, and serve the delicious and nutritious meals that will help them stay on track with their goals.

Keep reading to learn all about nutrition for your diabetic clients. You learn all about the best food choices, the importance of portion sizes and how to prepare a healthy meal plan.


## WHAT IS A DIABETIC DIET?

In the "old days," there was a standard diabetic diet. Now, doctors know that each diabetic needs an individualized meal plan. If you prepare food for diabetic clients, be sure you know how to follow each client's personalized eating plan.

No matter what your client's diet plan looks like, it's important to understand that every food causes blood sugar to go up-not just sugar. So, if people with diabetes eat zero sugar, but continue to eat a lot of fats and high calorie foods, their blood sugar will still be out of control.

Some people with diabetes can avoid having to take medications or insulin by following a healthy diabetic diet.

## WHAT, WHEN \& HOW SHOULD A DIABETIC CLIENT EAT?

- Plenty of non-starchy vegetables, beans, and fruits such as greens, squash, carrots, pinto beans, black beans, kidney beans, apples, pears, and berries.
- Grains in the least processed state possible, such as whole-grain bread, brown rice, stone-ground bread, steel-cut oats, and natural granola breakfast cereals.
- Limit (or eliminate if possible) white potatoes and refined grain products such as white breads and white pasta.
- Limit concentrated sweets, such as ice cream, to occasional treats. Reduce fruit juice to no more than one cup a day. Completely eliminate sugar-sweetened drinks like soda.
- Eat a healthy of protein at most meals, such as beans, fish, or skinless chicken.
- Choose foods with healthy fats, such as olive oil, nuts (almonds, walnuts, pecans), and avocados.
- Limit saturated fats from dairy and other animal products. Completely eliminate partially hydrogenated fats (trans fats), which are in fast foods and many packaged foods.
- Try to eat every $\mathbf{3}$ to $\mathbf{4}$ hours. Have three small meals and two snacks each day to keep blood sugar levels stable.
- Eat slowly and stop when full.

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Grab your favorite highlighter! As you read this inservice, highlight five things you learn that you didn't know before. Share this new information with your co-workers!


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The point of the diabetic meal plan is to help your client manage his blood sugar. That's why you need to know the recommended levels for blood sugar. Here are the typical normal levels:

## BEFORE BREAKFAST

Normal blood sugar before breakfast should be between $70 \mathrm{mg} / \mathrm{dl}$ and $100 \mathrm{mg} / \mathrm{dl}$.

## AFTER A MEAL

After eating, blood sugar should be less than $\mathbf{1 8 0} \mathbf{~ m g} / \mathrm{dl}$.

## DURING EXERCISE

During everyday activities, blood sugar should range from
$100 \mathrm{mg} / \mathrm{dl}$ to $140 \mathrm{mg} / \mathrm{dl}$.

## COMMON BUT CONFUSING FOOD TERMS

Making food choices for your diabetic clients may seem easy at first. But your first trip to the grocery store may leave you with a headache! Food packaging can have all sorts of tricky labeling that may make you think you're buying something healthy, when in fact, you are not.

## Here are a few common but confusing terms regulated by the FDA:

FREE ("without," "no," or "zero" can all be used in place of "free.")

- Calorie free-Less than 5 calories per serving.
- Cholesterol free-Less than 2 mg cholesterol and 2 g or less saturated fat per serving.
- Fat free-Less than 0.5 g of fat per serving.
- Sugar free-Less than 0.5 g of sugar per serving.
- Salt or sodium freeLess than 5 mg per serving.



## LIGHT

1) At least one-third fewer calories per serving than a comparison food; or
2) Contains half the fat of a comparison food; or
3) Contains at least $50 \%$ less sodium per serving than a comparison food.

LOW ("little," "few," or "low source of" may be used in place of "low.")

- Low calorie-40 calories or less per serving.
- Low cholesterol-20 mg or less cholesterol and 2 g or less saturated fat per serving.
- Low fat-3 g or less per serving.
- Low saturated fat-1 g or less saturated fat per serving and $15 \%$ or less calories from fat.
- Low sodium-140 mg or less per serving.
- Very low sodium-Less than 35 mg or less sodium per serving.

No Added Sugar, Without Added Sugar-These terms are not the same as "sugar-free." These terms mean that no sugar was added during processing, but sugar may already be a natural part of the item. Check the nutrition label to see the total amount of sugar in this product.

## READING NUTRITIONAL INFORMATION ON FOOD LABELS




## QUICK GUIDE TO \%DAILY VALUE

$5 \%$ or less is GOOD.
20 \% or more is BAD.

Reading food labels is important for everyone who wants to maintain a healthy diet, but it's even more important for people with diabetes. Here's what you need to know:

- SERVING SIZE: Always start here. Notice that, for this product, one serving is one cup. And, there are $\mathbf{2}$ servings in the container
- CALORIES: Next, notice the number of calories. This food has 250 calories per serving. Most of your diabetic clients will have calorie goals ranging from 1200 to 1800 calories per day. If you're serving 3 meals and 2 snacks, you are shooting for about 200 to 300 calories per meal. One serving of this food would be a full meal.
- FAT: Now, look at how many of those calories come from fat. Look for items that have no or low fat for your diabetic clients.
$\Rightarrow$ How will you know if an item is low in fat? Rule of Thumb: For every 100 calories, there should be no more than 3 grams of fat. Going by that rule, this item should have about 7 grams of fat to be healthy. It has 12!
- TYPES OF FAT: Next, look at the type of fat in this product. The total fat is 12 grams, with 3 grams (or $15 \%$ of the daily value) from saturated fat. This is the bad fat that can clog arteries, leading to a risk of heart attack and stroke.
- CHOLESTEROL: Always look for items that are low in cholesterol. This food contains 30 mg of cholesterol. Most diabetics will have to limit cholesterol to 200 mg per day.
- PROTEIN: This food has 5 grams of protein. It is a good source of protein.
- FIBER: There is NO fiber in this food! That's not good! Fiber helps you feel full and it keeps diabetics from having a rapid rise in blood sugar after eating.
- CARBOHYDRATES: This food has a whopping 31 grams of carbohydrates. A typical diabetic diet will require about 150 to 225 grams of carbs per day. Most of these should come from "good" carbs. (See page 6 for more info on good carbs.)
- VITAMINS and MINERALS: This food does contain some vitamins, calcium and iron. That's good.



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## IS IT TOO HIGH OR TOO LOW?

Even though diabetes is characterized by having too much sugar in the blood, people who have diabetes have to worry about having blood sugar that gets too high OR too low.

Are you able to recognize these symptoms?
HYPERglycemia or high blood sugar can occur when diabetics get off schedule, feel stressed out or suffer from an infection or illness. Symptoms are:

- Dry mouth
- Nausea and/or vomiting
- Shortness of breath

HYPOglycemia, or low blood sugar can occur when diabetics get too much diabetes medication, skip meals or snacks, or get more exercise than usual. Symptoms include:

- Severe headache
- Slurred speech
- Loss of consciousness


## TYPES OF DIABETIC DIETS

## There are several types of diabetic meal plans. Your client's plan will depend on his/her overall health, goals, and ability to follow the plan.

THE EXCHANGE PLAN—In this plan, foods are grouped into three main categories: the carbohydrate group; meats; and the fat group. Items are listed with their serving sizes. In the amounts given, all choices on each list are equal. That means any food on the list can be exchanged or traded for any other food on the list.

In the past, most people with diabetes followed the exchange system for meal planning. Today, carbohydrate counting has generally taken over as the tool of choice, but many people still rely on exchanges.

THE CARB COUNTING PLAN—Many people find the carbohydrate counting to be more precise and easier to use than the exchange plan. With this plan, your client will have a set limit for the amount of carbs to eat in each meal. The amount of carbs allowed is very individual and depends on how active the client is and what medicines he or she takes. Active people can generally eat more carbs.

CREATE YOUR PLATE PLAN—Often, when people are diagnosed with diabetes, they don't know where to begin. One way is to focus on portion sizes and types of food. This plan focuses on filling the plate with non-starchy vegetables and having smaller portions of starchy foods and meats.

## Here's how you do it:

1. Divide the plate into three sections, one large and two small.
2. Fill the largest section with non-starchy vegetables such as: spinach, carrots, lettuce, greens, cabbage, green beans, broccoli, cauliflower, tomatoes, onion, cucumber, beets, okra, mushrooms, peppers and turnips.
3. Now in one of the small sections, put grains and starchy foods such as: whole grain breads, high-fiber cereal, cooked cereal, pasta, cooked beans, peas, corn, lima beans, sweet potatoes, low-fat crackers, pretzels and light popcorn.
4. And then in the other small section, put your protein such as: chicken, turkey, fish, lean cuts of beef, pork and eggs.
5. On the side, add a serving of fruit, low-fat dairy, or both if the meal plan allows.
6. To complete the meal, add a lowcalorie drink like water, unsweetened tea, or coffee.


## GOOD CARBS VS BAD CARBS


#### Abstract

Carbs have gotten a bad rap lately, but not all carbs are created equal. Normal healthy adults should never completely eliminate carbs from their diet, and neither should your diabetic client.


Carbs are the body's main source of energy. During digestion, all carbohydrates are converted into glucose (sugar). Glucose is a vital source of energy used by every cell in the body.

The difference between "good carbs" and "bad carbs" is the time it takes the body to convert the carb into glucose.
"Bad carbs" convert quickly, leading to a quick spike in blood sugar, then a big crash.

WHAT ARE THE "BAD CARBS"
Chips
Pretzels
White Rice
White Pasta
White bread
Hot Dog Buns
Hamburger Buns
Alcoholic Drinks
French Fries
Doughnuts
Pizza crust
Pancakes
Pastries
Cookies
Bagels
Sodas
"Good carbs" convert slowly. They avoid the spike and provide long term energy.


WHAT ARE THE "GOOD CARBS"
Vegetables (all kinds)
Whole Grain Bread
Brown Rice
Oatmeal
Seeds
Nuts
Fruit
Yams
Beans
Quinoa
Granola
Legumes
Sweet Potatoes
Whole Grain Pastas
Whole Grain Cereals
Low Fat Dairy Products

Cake


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Your diabetic client needs to eat every 3 to 4 hours to keep blood sugar levels stable. And just like meals, snacks should be a combination of fat, protein, and carbohydrates.

Aim for one that consists of 15 to 30 grams of carbohydrates and 100 to 200 calories (depending on your clients meal plan and medication).

## Here are a few ideas:

- 2 whole grain crackers, 1/4 cup nonfat cottage cheese, and $1 / 4$ cup grapes.
- 1 cup of popped popcorn
- 1 small apple and 1 ounce of low fat cheese
- $1 / 2$ cup of raw veggies and $1 / 4$ cup of yogurt dip
- 2 slices of low fat turkey wrapped in a lettuce leaf with 1 low fat string cheese
- $1 / 4$ cup of almonds with $1 / 4$ cup of cherry tomatoes


COMFORT FOOD MAKEOVERS

It's no secret...your family and your upbringing shape your relationship with food.

The foods you ate with your family as a child are probably what you refer to now as your "comfort foods." The same is true for your clients.

- What are your client's comfort foods?
- Are they healthy?
- Do you notice that your client eats (or over-eats) these foods at certain times?
- What are those times?

Think of healthy ways to rework the recipes for your client's "comfort foods." For example, make meatloaf with ground turkey instead of beef, or make mac $n^{\prime}$ cheese with whole wheat pasta and melt the cheese in low fat milk.

## CREATING THE PERFECT MEAL PLAN

1. First, determine how many calories your client needs. This may be stated in the client's meal plan. If not, you can calculate the daily caloric needs using the following formula.

## To maintain current weight:

- Most men and very active women should have $\mathbf{1 5}$ calories per pound.
- Most women, sedentary men, and adults over 55 years should have 13 calories per pound.
- Sedentary women and obese adults should have $\mathbf{1 0}$ calories per pound.

To lose 1 to 2 pounds per week (a safe rate of weight loss), subtract 500 to 1000 calories from the total number of calories needed to maintain weight.
$\Rightarrow$ For example, a sedentary man who is 65 years old and weighs 170 pounds should eat about $\mathbf{2 2 0 0}$ calories a day to maintain weight $(170 \times 13=2210)$.
$\Rightarrow$ To lose 1 to 2 pounds per week, he should eat $\mathbf{1 2 0 0}$ to $\mathbf{1 7 0 0}$ calories per day (2200-1000 =1200 and 2200-500 = 1700).
Make adjustments as needed. Check your client's weight at about the same time every day. If he or she gains 3 to 5 pounds, cut back the calories. If weight loss is a goal, be sure to recalculate the calories as weight is lost.
2. Next, break the calories into groups. The chart below shows how much of each food group to choose to reach an average 1800 calorie goal.

| FOOD GROUP | HOW MUCH? |
| :--- | :--- |
| Whole Grains | $5-6$ servings per day |
| Non Starchy Vegetables | 2 cups per day |
| Fruits | $1-1 / 2$ cups per day |
| Protein (Lean Meat, Poultry, Eggs, | 7 ounces per day |
| Nuts, Beans, Seafood) | 3 cups per day |
| Low Fat Dairy products | $5-6$ teaspoons per day |
| Fats and Oils |  |

3. Start adding your client's foods to the blanks on the meal plan worksheet (found at the end of this inservice). For example:

- Your client needs 5 to 6 whole grains a day. Go through the first day plugging in grains where appropriate. You may plan for a whole wheat English muffin at breakfast, a slice of whole grain bread for a sandwich at lunch, and one cup of cooked brown rice with dinner. That adds up to 5 servings of grains for that day. Continue with veggies, protein, etc.


## FOOD CHOICES MADE EASY

## WHOLE GRAINS

Here are some common whole grain choices and the amounts that are considered one serving.

1 slice of Whole Grain Bread
1 Whole Grain "Mini" Bagel
4 snack-size slices Rye Bread
1 small square of Cornbread
5 Whole Wheat Crackers
2 Rye Crisp Breads
1 Whole Wheat English muffin
$1 / 2$ cup Cooked Oatmeal
3 cups of Popped Popcorn
1 cup toasted oat or wheat flake breakfast cereal
$1 / 2$ cup cooked Brown Rice
$1 / 2$ cup cooked Whole Wheat Pasta
1 small Wheat or 1 Corn Tortilla

## PROTEINS

Here are some common protein choices and how many ounces are in each. Keep in mind, a typical 1800 calorie diet needs about 7 ounces of protein each day.

1 small steak $=4 \mathrm{oz}$. of protein
1 lean hamburger $=3 \mathrm{oz}$. of protein
1 chicken breast half $=3 \mathrm{oz}$. of protein
$1 / 2$ Cornish game hen $=4 \mathrm{oz}$. protein
1 can of tuna $=3 \mathrm{oz}$. of protein
1 small trout $=3 \mathrm{oz}$. of protein

1 salmon steak $=4$ to 6 ounces of protein

3 egg whites $=2 \mathrm{oz}$. of protein
1 cup split pea soup $=2$ oz. of protein
1 cup lentil soup $=2 \mathrm{oz}$. of protein
1 cup bean soup $=2$ oz. of protein

## NON-STARCHY VEGETABLES

In general, 1 cup of raw or cooked vegetables or 2 cups of raw leafy greens can be considered as 1 cup from the Vegetable Group. Most of your diabetic clients will need 2 cups a day from this group. Here are the best choices:

Broccoli
Collard, Mustard and Turnip Greens

Spinach and Kale
Dark Green Lettuces
Carrots

Tomatoes
Bell Peppers
Sweet Potatoes
Acorn or Butternut
Squash
Zucchini

Mushrooms
Onions
Celery
Cabbage
Cauliflower
Cucumbers


Here are some easy ways to estimate portion sizes of common foods:

3 ounces of cooked meat, poultry or fish is about the size of a woman's palm or a deck of cards.


1 Tablespoon of peanut butter is about the size of a single walnut.


1 ounce of cheese is about the size of two dice!



## REVIEW WHAT YOU LEARNED!

1. Following a diabetic eating plan can decrease or eliminate the need for medication and can help many clients lose the weight that may have factored in the diagnosis in the first place.
2. There are several types of diabetic meal plans. Your client's plan will depend on his/her overall health, goals and ability to follow the plan.
3. No matter what your client's diet plan looks like, it's important to understand that every food causes blood sugar to go up-not just sugar.
4. Diabetics need to eat every 3 to 4 hours to keep blood sugar levels stable. Just like meals, snacks should be a combination of fat, protein, and carbohydrates.
5. The difference between "good" and "bad" carbs is the time it takes to convert it into glucose.

## HEALTHY FOOD PREPARATION

## Choosing the right foods in the right amounts is important. But what's equally important is how the food is prepared! Here are a few tips:

## MEATS:

- Trim excess fat off meats and remove the skin from chicken or turkey.
- Fish is low in saturated fat when baked, broiled, grilled or boiled but not when it's breaded and fried!
- The best beef choices are the lean cuts that have very little visible fat. Lean beef cuts include round, chuck, sirloin or loin. Lean pork cuts include the tenderloin or loin chop.
- Cook hamburger, pork chops and steak under the broiler on a broiling pan that allows drainage of the fat.
- Limit processed meats such as sausage, bacon and hot dogs. Processed meats are high in calories, saturated fat and sodium!


## FRUITS AND VEGETABLES:

- Steam vegetables or cook in a tiny bit of olive oil, adding a little water during cooking if needed.
- Add herbs, spices, vinegar, lemon juice, or salsa to vegetables instead of butter, cheese or salt!


## EGGS:

- The cholesterol in eggs is found in the yolks. However, egg whites are an excellent source of protein. Most recipes that call for whole eggs will be just as good with egg whites. Replace each whole egg with two egg whites.


## DAIRY:

- Choose low-fat (1\%) or fat-free (skim) milk and cheese in place of whole milk or half-and-half. Low-fat cottage cheese, part-skim milk mozzarella or ricotta and other low-fat cheeses work great in most recipes with little or no change in consistency.


## OILS:

- Use non-stick cooking spray instead of oils or butter whenever possible.
- If oil is needed, then canola, safflower, sunflower, soybean, and olive oil are better choices than solid fats such as butter, lard or shortening.
- Use low- or no-sugar jams instead of butter or margarine on breads.



## FINAL TIPS ON NUTRITION AND DIABETES

When making choices about what to plan, purchase or cook for your diabetic clients, try to answer these four simple questions first:

1. Is it nutritious? Ask yourself if the food or meal contains all the nutrients your diabetic clients needs to be healthy. Is it unprocessed? Is it low in salt, sugar, additives, and preservatives?
2. Is it fresh? Are fruits and vegetables fresh and clean? Meats should look and smell fresh. Canned goods should not be dented, rusted or bulging. Check expiration dates on every food item, paying particular attention to meats and dairy products.
3. Is it affordable? Remember, the foods you choose have to make financial sense to your clients. Always ask yourself if the foods you choose are worth their price.
4. Is it preferred? You may love broccoli, but if your client hates it, there's no sense in making it!

## BUILD A COOKBOOK LIBRARY

It's easy to get in a slump when cooking for diabetic clients. Keep things fresh and fun by building a library of cookbooks that focus on diabetic eating. Look for great deals on cookbooks in yard sales, thrift stores, used bookstores and even at your local library. Here a few to look for:

- The 4-Ingredient Diabetes Cookbook by Nancy S. Hughes
- The All-Natural Diabetes Cookbook by Jackie Newgent
- Betty Crocker 30-Minute Meals for Diabetes by Betty Crocker
- Betty Crocker's Diabetes Cookbook by Betty Crocker
- Diabetes Cookbook For Dummies by Alan L. Rubin
- The EatingWell Diabetes Cookbook: 275 Delicious Recipes and 100+ Tips for Simple, Everyday Carbohydrate Control by The Editors of EatingWell
- The New Family Cookbook for People with Diabetes by American Diabetes Association
- The New Soul Food Cookbook for People with Diabetes by Gaines and Weaver
- Mr. Foods Quick \& Easy Diabetic Cooking by Art Ginsburg
- The Type 2 Diabetes Cookbook: Simple \& Delicious Low-Sugar, Low-Fat, \& LowCholesterol Recipes by Lois M. Soneral




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Now that you've read this inservice on nutrition for diabetic clients, jot down a couple of things you learned that you didn't know before.
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## A Nutrition Module: Nutrition for Diabetic Clients

Are you "In the Know" about nutrition for diabetic clients? Circle the best choice or fill in your answer. Then check your answers with your supervisor!

1. Each person's diabetic diet is unique, but all have this in common:
A. Lean sources of protein.
C. Plenty of non-starchy vegetables.
B. Whole grains.
D. All of these.
2. A juice container has "No Sugar Added" on the label. This means:
A. It has no sugar in it.
C. No sugar is added during processing.
B. It may contain fake sugar.
D. It's loaded with sugar.
3. Your diabetic client doesn't understand why it's important to eat smaller meals and snacks every $\mathbf{3}$ to $\mathbf{4}$ hours throughout the day. You should explain:
A. It's a good way to lose weight.
B. It helps keep blood sugar levels stable.
C. It's important to avoid heartburn and indigestion.
D. Tell her she doesn't have to eat that way if she doesn't want to.
4. Most diabetics must limit cholesterol to:
A. 2 mg per day.
B. 20 mg per day.
C. 200 mg per day.
D. 2000 mg per day.
5. True or False

White bread and white rice contain carbohydrates that convert slowly into glucose, providing long term energy for the body.
6. True or False

One ounce of cheese is about the size of a deck of cards.
7. True or False

Lean meats and fish are healthy when baked, broiled or grilled but not when fried!
8. True or False

Hypoglycemia can occur when diabetics get more exercise than usual.
9. True or False

When using the "Create Your Plate" meal plan, the largest section on the plate is for lean proteins.
10. True or False

Sweet potatoes are considered a "good carb."

## WEEKLY MEAL PLAN TEMPLATE

Once you know your client's food preferences, you can use this template to help guide your meal planning. Always keep one blank copy for your "original" and make additional copies to write on.

- Keep in mind, it's easier to prepare "make-ahead" meals than it is to prepare new items every day. Make use of soups, stews, casseroles and roasts. Freeze individual portions and plan on defrosting and re-heating for quick meals.

|  | Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Breakfast |  |  |  |  |  |  |  |
| Snack |  |  |  |  |  |  |  |
| Lunch |  |  |  |  |  |  |  |
| Snack |  |  |  |  |  |  |  |
| Dinner |  |  |  |  |  |  |  |
| Snack |  |  |  |  |  |  |  |

