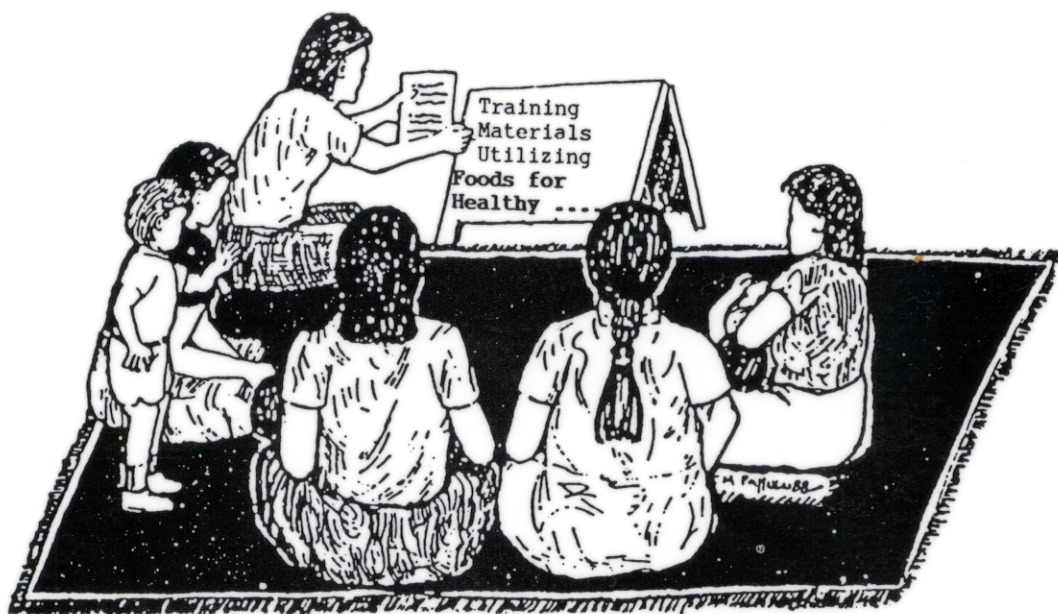


Training Materials Utilizing Food Choices For Healthy Living



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To the Presenter

As the instructor for this program you have the unique opportunity to help communities achieve a healthier lifestyle, enjoy the benefits of good nutrition and be successful at managing Diabetes. This three part series contains practical information that is designed to be educational and interactive.

For best results, it is suggested you read through the guide to become more familiar with the information. The lessons work best when presented in the order listed below but could be used independently if so desired.

Each lesson takes a minimum of 45 minutes; however an hour or more allows for more group discussion and interaction. You will need to review each lesson to determine how it can be utilized within your time or facility constraints.

This ADAP publication includes a three lesson curriculum:

Part 1:

- Lesson 1. How Diet Affects Diabetes
- Lesson 2. Taking Control of Your Diabetes
- Lesson 3. Understanding Gestational Diabetes

The fact sheets and background information for the instructor are written for your convenience in presenting. **Instead of reading these to the participants**, use the information to trigger discussions. If the learner group is uninformed about Diabetes Mellitus, the facilitator may want to add a lesson using information found in Guam Cooperative Extension Publication, *Understanding Diabetes Mellitus* before implementing *How Diet Affects Diabetes*.

The goal of this curriculum is to bring up-to-date nutrition and Diabetes information to individuals that provide nutrition and health education. We welcome your enthusiasm and sensitivity and hope you find the information useful. We look forward to your input as we continue to make the ADAP publication informative and interactive.

Preparation Checklist

- Prior to using these materials, there are a few tasks that will need to be addressed. If you are co-sponsoring the program at a school, work with your coordinator to avoid duplication of effort.

1. Make sure the meeting dates, time and place have been clearly established.
2. Check to be sure participants have received information regarding the program.
3. Obtain ample materials for participants.
4. Review any equipment needs.
5. Obtain any necessary audiovisual equipment.
6. Review lesson.
7. If you decide to invite guest speakers, plan well in advance.

Consider your audience and remember that a sense of humor, patience and good listening skills will help you accomplish your goals as a teacher.

- Participants will have specific questions regarding Diabetes. Questions of a medical nature should be referred back to their primary health-care provider. The program is designed to be educational but not to give direct “treatment” to the participant.

- Answers to questions concerning basic nutrition are included in this curriculum. However, sometimes the questions may be more involved than you feel comfortable answering. It’s OK not to have all the answers. Let the participant know that you are not sure of the answer and contact local resource people for assistance.

- Your local Cooperative Extension office can be contacted as a source of additional information. Most states and territories have Cooperative Extension resource personnel affiliated with their Land Grant State University. Extension offices are also located in all island jurisdictions with Land Grant institutions and most in counties in the mainland United States. Registered Dietitians (R.D.), Home Economists, and WIC Nutritionists may also be of assistance.

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Lesson At A Glance

Lesson 1: How Diet Affects Diabetes

Main Message: *Following a healthy meal plan is the first step in controlling Diabetes*

	Concept... What we teach	Method... How we teach	Results... Why it is being taught	Resources... What is needed to teach
A	How diet affects diabetes	Facilitator will guide the learners through the process of identifying the role foods play in their diet.	Learner will be able to... understand how food affects blood sugar levels.	<ul style="list-style-type: none"> • Simple diagram of gastrointestinal tract transparency 1
B	The adjusted Daily Food Guide for Healthy Bodies can be used to help select appropriate number of servings of each food group	Facilitator will guide the learners through the Daily Food Guide for Healthy Bodies to identify the five food groups.	Learner will be able to... identify the number of servings for each of the five food groups in the Daily Food guide for Healthy Bodies for different calorie intake levels.	<ul style="list-style-type: none"> • Measuring Equipment, Models & Pictures • Daily Food Guide for Healthy Bodies Handout 2
C	<i>Food Choices for Healthy Living</i> can be used to identify serving sizes and exchange list equivalents for regional foods	Facilitator will guide learners through <i>Food Choices for Healthy Living</i> to identify servings sizes and exchange list equivalencies	Learner will be able to... choose foods using the exchange list system as described in <i>Food Choices for Healthy Living</i> .	<ul style="list-style-type: none"> • <i>Food Choices for Healthy Living</i> transparency 2
D	There are tools to determine if the blood sugar control plan is working	Facilitator will guide the learners to identify several different ways to monitor blood glucose levels.	Learner will be able to... recognize ways to monitor blood glucose levels.	<ul style="list-style-type: none"> • Control Plan Sheet Handout 1 • List of different samples of Blood Glucose Testing Kits and information on how to obtain these kits Handout 3
E	Support groups can help individuals manage their diabetes	Provide a listing of support groups available for diabetics as well as their family members.	Learner will be able to... identify organizations that offer support.	<ul style="list-style-type: none"> • Listing of Support Groups available Handout 3

Lesson 1

HOW DIET AFFECTS DIABETES

MAIN MESSAGE:

Following a healthy meal plan is the first step in controlling Diabetes.

OBJECTIVES:

Upon completion of this lesson, learners will be able to:
understand how food affects blood sugar levels;
recognize positive eating habits that will control Diabetes;
identify recommended serving amounts for each of the five groups in the Food Guide Pyramid;
recognize ways to test blood sugar levels;
identify organizations that offer support.

MATERIALS NEEDED:

Participant materials

Simple diagram of gastrointestinal tract
Exchange List for Meal Planning
Food Choices for Healthy Living; local version
Food Guide for Healthy Bodies
Measuring equipment, models and pictures
Control Plan Sheet
List of different samples of Blood Glucose Testing Kits
Information of Support Groups available

Background Information Included:

Estimating Exchanges
New Idea for Portion Control
Do I Really Have to Measure?

LESSON OVERVIEW: This lesson is designed to develop an understanding of how diet affects Diabetes. Facilitator and learners can develop skills to improve their diet to help control Diabetes.

Welcome & Introductions:

Welcome learners to the class. Introduce yourself and introduce any new learners to other class members. Today's lesson will be teach how following a healthy meal plan is the first step in controlling Diabetes.

A. Concept:

How diet affects Diabetes. Differentiate foods that are more acceptable and less acceptable in a diet plan.

Method: Facilitator starts this lesson by asking the learners to describe how they decide what to eat. Facilitator will also ask learners to name foods that affect blood sugar levels. Facilitator will list these foods on the board in two different lists. One list would be more acceptable foods and the other list will be less acceptable foods. Discuss how serving size adjustments can make more foods acceptable. The facilitator will then demonstrate measuring techniques. The facilitator will also refer to background information on Do I Really Have To Measure?

B. Concept:

The Food Guide for Healthy Bodies can be used to help select appropriate number of servings for each food groups.

Method: The facilitator will first ask the class to name the five food groups and their standard serving size. The facilitator will then provide the adapted food guide with different Kcal levels. The facilitator will differentiate the number of servings for each of the different Kcal levels and size of servings for different foods.

C. Concept:

Food Choices for Healthy Living can be used to identify serving sizes and exchange equivalents for regional foods.

Method: The facilitator discuss the serving sizes for regional foods. The *Food Choices for Healthy Living* will be used as a guide to help learners calculate the exchange equivalencies for these foods.

D. Concept:

There are tools to determine if the blood sugar control plan is working.

Method: Facilitator will ask learners to identify several ways to monitor blood sugar levels. Facilitator will lead group in discussion of how diabetes management is determined without blood glucose monitoring equipment. Facilitator will describe how the Control Plan Sheet helps with blood glucose management. Facilitator will show the flaws and weaknesses of these approaches.

E. Concept:

Support groups can help individuals manage their diabetes.

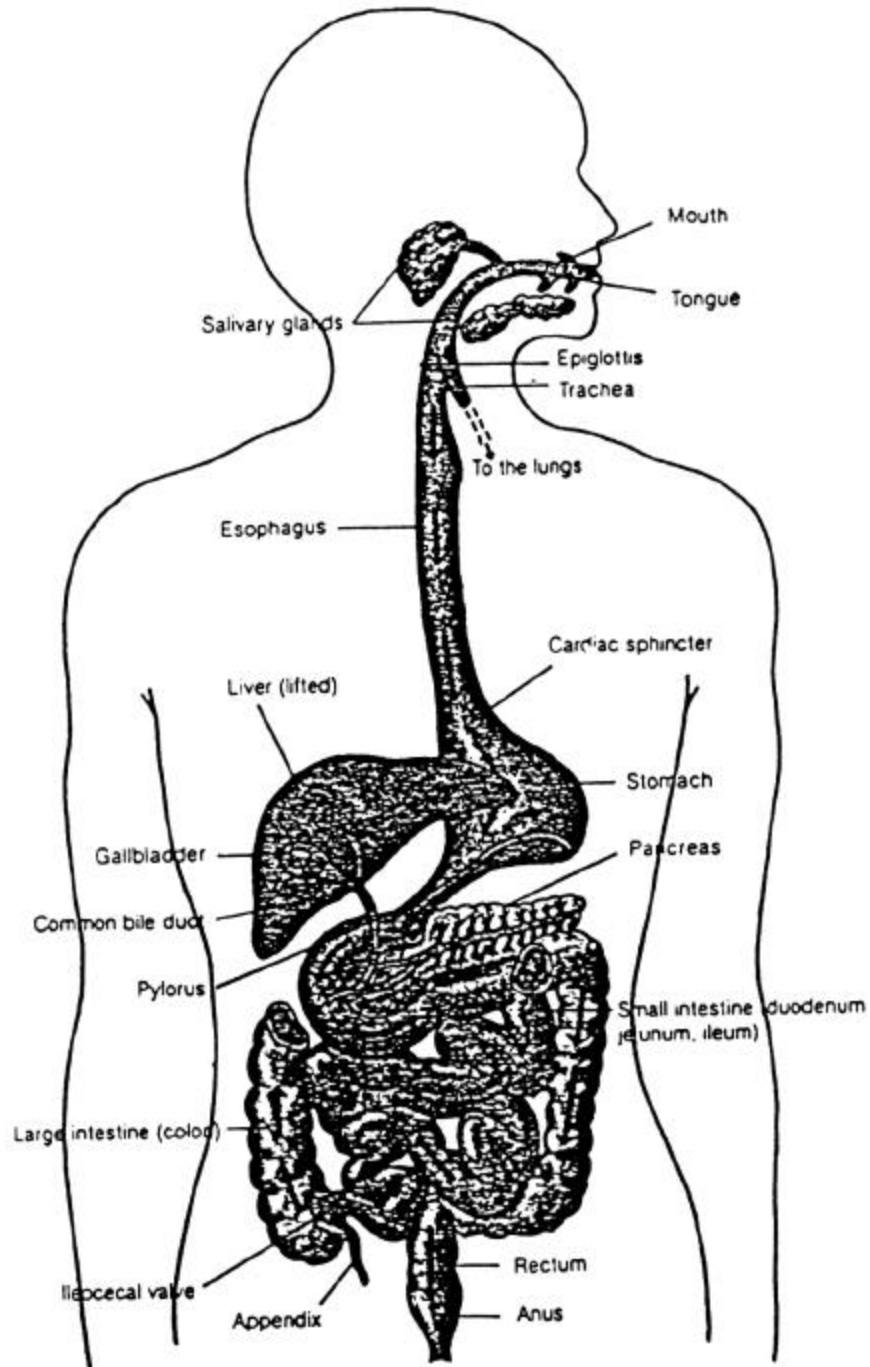
Method: The facilitator will distribute a list of support groups available for diabetics as well as for their family members.

CLOSURE:

Lesson Summary:

- Review the main concepts of the lesson. Learning about the experiences of other participants can help the group identify common concerns.
- Ask if participants have questions or have identified points needing clarification.
- Conduct the evaluation of the workshop.

Gastrointestinal Tract Diagram



Adapted from: Whitney, E.N., Catalgo, C.B., & Rolfes, S.R. (1991). Understanding Normal & Clinical Nutrition. (3rd ed.). St. Paul, MN: West Publishing Company.

Nutrient Content by Food Group

Food Group	Carbohydrates (grams)	Protein (grams)	Fat (grams)	Calories (grams)
Starch	15	3	trace	80
Protein/Meat				
Lean(Meat A)	—	7	3	55
Medium-fat (Meat B)	—	7	5	75
High-fat (Meat C)	—	7	8	100
Vegetable	5	2	—	25
Fruit	15	—	—	60
Calcium/Milk				
Skim	12	8	trace	90
Lowfat	12	8	5	120
Whole	12	8	8	150
Fat	—	—	5	45



Source: Shovic, A.C., Ph.D., R.D. & Pobocik, R.S., Ph.D., R.D. (1994). Guam Food Choices for Healthy Living based on food group lists (Agricultural Development in the American Pacific, ADAP, project number 94-3). Land Grant Institutions of the Pacific.


Control Plan Sheet

Day	Time	Insulin Dose/Type	Blood Glucose Test				Urine Ketone Tests	Notes		
			Breakfast	Lunch	Dinner	Bedtime				
			before	before	before					
			1 hr. after	1 hr. after	1 hr. after					
Food										
	Breakfast		CHO	Portion	Lunch	CHO	Portion	Dinner	CHO	Portion
	Snack		CHO	Portion	Snack	CHO	Portion	Snack	CHO	Portion
Exercise										
	Type								Duration	
Comments										

Source: Jovanovic-Peterson, L., MD, & Stone, M. B. (1994). *Managing Your Gestational Diabetes - A Guide for You and Your Baby's Good Health*. Minneapolis, MN : CHRONIMED Publishing, Inc.

The food guide pyramid can help you choose what and how much to eat from the Energy, Protective, and Growth food groups. Choosing the right kinds and amounts of foods will help you enjoy better health.

 = pregnant woman*
 = Males over 18

 = females over 18
 (not pregnant or breastfeeding)

Growth foods =
 1 serving is:
 1 oz. meat or fish (piece the size of a deck of cards)
 1 1/2 to 2 oz of cheese (2 slices)
 8 oz. milk or plain yogurt
 1/4 to 1/2 cup beans
 1 egg

Energy foods =
 1 serving is:
 1/3 cup cooked rice
 2 crab or ship biscuits
 1 slice of bread
 1 ounce cold ready-to-eat cereal

Protective foods =
 1 serving is:
 1/2 cup cooked, dried or chopped raw vegetables
 1 cup raw leafy vegetables
 1 medium raw fruit or vegetable
 1/2 cup 100% pure fruit juice

○ = 1 serving



DAILY FOOD GUIDE FOR HEALTHY BODIES

Source: Guam Cooperative Extension. (1996). Daily Food Guide for Healthy Bodies (1st ed). [Leaflet]. Mangilao, GU: Author

BLOOD GLUCOSE TESTING KITS

Over the Counter Kits

<i>Pharmacy</i>	<i>Phone Number</i>	<i>Brand of Kits</i>	<i>Price Range</i>
Cruz Pharmacy	649-4680	One Touch Basic	\$ 70.50
FHP Pharmacy	646-5825	One Touch Basic AccuCheck	\$ 70-\$100
GITC Pharmacy	646-6395	AccuCheck Advantage	\$ 78.70
Mega Drug Pharmacy	646-5355	One Touch Basic	\$ 71.50
Rexall Drugs	649-5174	One Touch Basic Glucometer Elite AccuCheck Instant AccuCheck Advantage	\$ 70-\$100
Super Drug Pharmacy	<i>Pay-less</i> Agana 477-3482 Dededo 637-9783 Oka Tamuning 646-6183	AccuCheck Instant AccuCheck Advantage Soft Touch Soft Clicks Brite Life Chem Strips	\$ 45-\$100

This is a partial list conducted by phone interview on February 24, 1999. Prices are subject to change. Use of trademarks or brand names does not imply endorsement by the Extension Service, U.S. Department of Agriculture or the University of Guam.

** These stores were also contacted but were unable to provide the information needed.*

*Agat Drug Store
Asan Pharmacy
Guam PolyClinic
Perezville Pharmacy
Doctor's Clinic Pharmacy
Marianas Medical Clinic
St. Anthony Clinic
Isla Home Infusion Inc.*

GUAM DIABETES ASSOCIATION

Support Groups

<i>Chapter</i>	<i>Contact Person</i>	<i>Phone #</i>	<i>Location</i>	<i>Meeting Times</i>
<i>Hagatna</i>	Carl Butler	632-1971	<i>CALS, UOG room 104</i>	2nd Thursday of every month
<i>Merizo</i>	Joe Nangauta	828-1955	<i>MerizoComm- nity Center</i>	4th Thursday of every month

Estimating Exchanges

Controlling diabetes means controlling your diet. The best way to control your diet is to use the diabetic exchange system. To use the exchange system, you must be able to estimate how much food is equal to the number of exchanges in your diet plan. When you first started using the exchange system, you probably measured most of the food. Later you may have begun estimating portion sizes.

One study pointed out some of the possible trouble spots in estimating amounts of food. In this study, students in a college nutrition class compared the effects of training on the accuracy of estimating amounts of food. This study found that training (practicing and rechecking) improved students' ability to accurately estimate amounts of food. It also found that liquids and soft foods are harder to estimate than solid foods. Most trained students could accurately estimate amounts of meatloaf and fish, but had problems with milk, soup, and especially applesauce and spaghetti. Estimates were also more accurate if the food was in a small container.

To be accurate, measure your food every once in a while to check your ability to estimate serving sizes. Particularly check soft foods and liquids since these are the hardest to estimate accurately. Good times to recheck food portion sizes are when you are having problems with your blood sugar or weight control, or when you are changing your meal plan or insulin doses significantly.

Source: Crawley, C. , Alley, H. , & Freeman J. (1991). Estimating Exchanges. Better Health for Diabetics, 5 (2) , p. 1.

Do I Really Have to Measure?

Measuring your food and drink ensures the best portion control, but few people do it all the time. So when should you measure?

When learning a new meal plan, measure carefully for at least two weeks. This allows you to measure more than once the food and drink you will consume most often. You will be better at estimating your serving sizes if you consistently use the same size plate, bowl, cup and glass.

After two weeks, measure your food at least once or twice a month to be sure you are not having “portion creep.” In other words, to be sure your portion sizes are not getting bigger and bigger. Also measure if you see significant changes in your blood glucose values or weight or whenever you try a new food.

When you measure, use the correct measuring cup. Your measurements will be inaccurate if you measure with the wrong type of cup. The liquid measuring cup has the top measuring line about a quarter of an inch from the rim of the cup. This keeps the liquid from spilling while you measure. You can usually see through this type of cup.

In contrast a dry measuring cup has the top line at the rim so the solid can be leveled off evenly with a knife or spatula. You usually cannot see through this type of measuring cup. Measuring spoons should be leveled off with the back of a knife.

Measuring frequently and correctly will help your blood glucose control become more predictable. With practice and a steady hand, you will get just the right amount of food to control your diabetes.

Source: Crawley, C. , & Rodekohr, J. (1998). Do I Really Have to Measure? Diabetes Life Lines, 12 (3) , p. 3.

New Idea for Portion Control

In Idaho, dietitians are teaching people with diabetes the “Plate Method” for portion control. What is the Plate Method? The Plate Method uses a divided plate to show how much of each food group to include in a meal. Mainly older clients with Type II non-insulin dependent diabetes use it, but teen-age girls also find it helpful.

How does it work? A dietitian takes a divided paper plate and marks the amount of each food for each meal (see illustrations). For breakfast, the clients fills half the plate with starch or bread servings, a fourth with a protein or meat serving and the rounds out the meal with a small fruit serving and eight ounces of milk. The protein food is optional for breakfast. If the client likes cereal, an average size bowl can substitute for some of the starch on the plate.

The lunch and supper patterns are the same. Half the plate is filled with non-starchy vegetables like broccoli, green beans or carrots. A fourth of the plate is filled with a starch or bread and a final fourth folds the meat/protein food. Milk and fruit are on the side. For those who don’t like so many vegetables, the plate can be modified to contain one-fourth non-starchy vegetable, one fourth meat, one-fourth starch and one-fourth fruit. Clients take the sample paper plates and bowls home and use them as models to fill their own plates and bowls.

Using the plate method, about 1,200 to 1,500 calories are eaten, depending on the amount of vegetables and protein chosen. Some people lose one to two pounds per week by using this method.

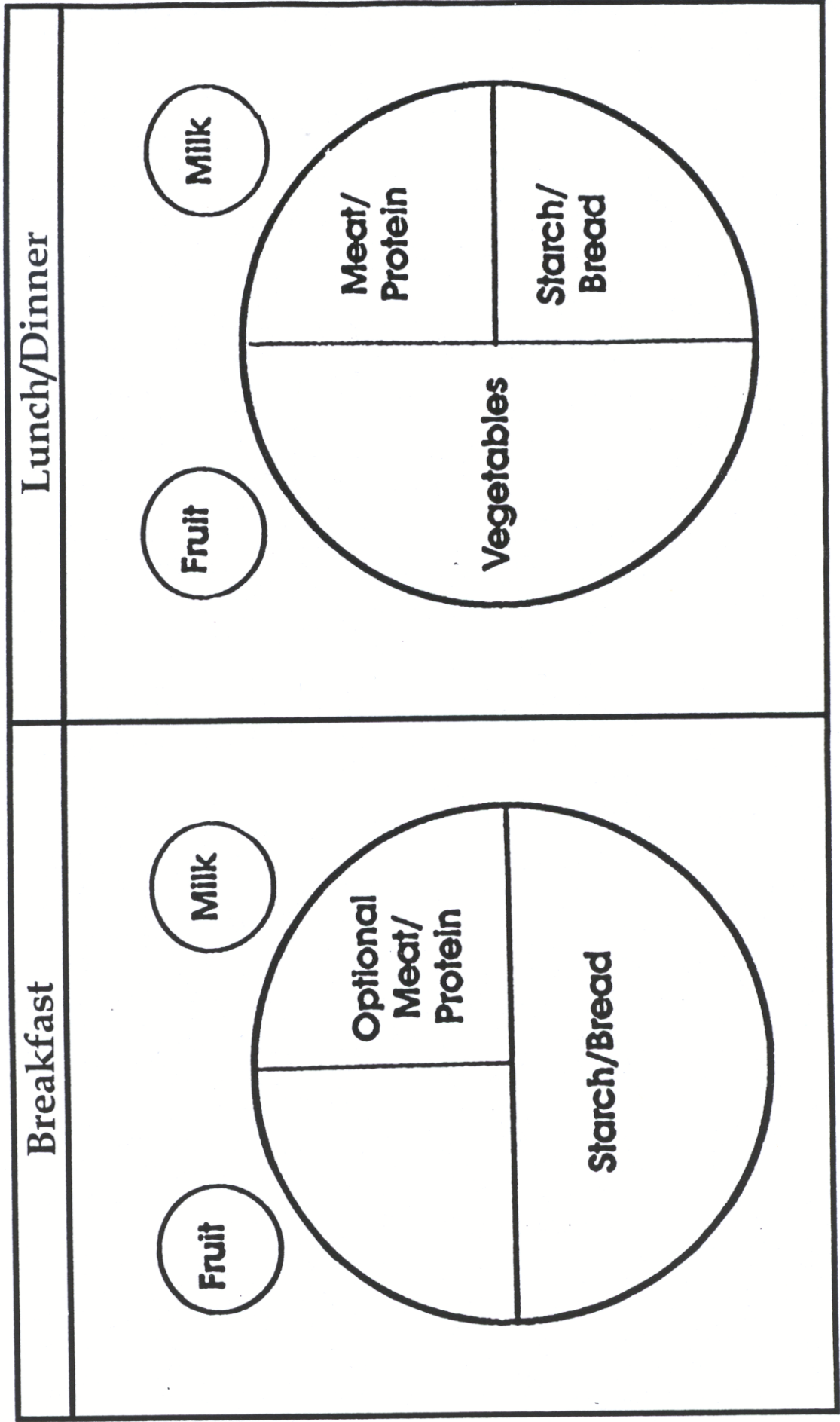
Adding lots of fat or oil to the food will add calories. But if only small amounts of diet margarine or diet salad dressing are used, the calories should stay low.

Of course you could really pile food on the plate if you want. This method only works if people take reasonable portions and don’t go back for seconds.

If you don’t like to carefully measure food, you may like the Plate Method. Many people try it to lose weight, control their carbohydrate intake, eat more fiber and consume less fat and cholesterol.

Source: Crawley, C. , & Alley, H. (1996). New Idea for Portion Control. *Diabetes Life Lines*, 10 (4) , 3-4.

PLATE METHOD



Lesson At A Glance

Lesson 2: Taking Control of Your Diabetes

Main Message: *Managing diabetes can reduce the risk of developing diabetes-related health problems*

	Concept... What we teach	Method... How we teach	Results... Why it is being taught	Resources... What is needed to teach
A	The importance of controlling blood sugar.	Facilitator can lead the learners in identifying the health implications caused by uncontrolled blood sugar levels.	Learner will be able to... understand that uncontrolled blood sugar is what leads to the most serious health problems caused by Diabetes	<ul style="list-style-type: none"> • <i>Taking Control of Your Diabetes</i> pamphlet transparency 1
B	Individuals can learn to recognize acceptable and safe blood sugar levels	Facilitator will ask what the learner's blood sugar is to prompt discussion	Learner will be able to... recognize the normal and dangerous levels of blood sugar	<ul style="list-style-type: none"> • <i>Taking Control of Your Diabetes</i> pamphlet transparency 2 • <i>South Pacific Commission-Pacific Diet Advisory Leaflet-Community Health Services-Diabetes No. 2</i> publication
C	Individuals can learn strategies to maintain acceptable blood sugar levels	Facilitator will ask the learners to identify lifestyle behaviors to manage Diabetes	Learner will be able to... recognize behavior that can control blood sugar levels	<ul style="list-style-type: none"> • <i>Take an Active Approach Model</i> transparency 3
D	Positive eating habits that will keep diabetes under control	Facilitator will guide the learners to identify more nutritious options for the food they regularly eat by learning to read food labels.	Learner will be able to... recognize positive eating habits that will control diabetes	<ul style="list-style-type: none"> • Nutrient Content by Food Group • Using the Food Label (Diabetes Information Sheet)

Lesson At A Glance

E	There are tools to determine if the blood sugar control plan is working	Facilitator will guide the learners to identify several different ways to monitor blood glucose levels	Learner will be able to... recognize ways to monitor blood glucose levels	<ul style="list-style-type: none">• Control Plan Sheet see lesson 1• List different samples of Blood Glucose Testing Kits and information on how to obtain these kits. see lesson 1
F	Support groups can help individuals manage their diabetes	Provide listing of support groups available for diabetics as well as their family members.	Learner will be able to... identify organizations that offer support.	<ul style="list-style-type: none">• Listing of Support Groups available see lesson 1

Lesson 2

TAKING CONTROL of YOUR DIABETES

MAIN MESSAGE:

Managing diabetes can reduce the risk of developing diabetes-related health problems.

OBJECTIVES:

Upon completion of this lesson, learners will be able to:

understand that uncontrolled blood sugar is what leads to the most serious health problems caused by Diabetes;
recognize normal and dangerous blood sugar levels;
recognize behaviors that control blood glucose levels;
recognize ways to test blood sugar levels;
identify organizations that offer support.

MATERIALS NEEDED:

Participant materials

Taking Control of Your Diabetes pamphlet

South Pacific Commission-Pacific Diet Advisory Leaflet-Community Health Services-Diabetes No. 2

Food Choices for Healthy Living based on food groups lists; local version

Using the Food Label and sample labels

Control Plan Record

Listing of Blood Glucose Testing Kits

Listing of Support Groups

Background Information Included:

A New Tool for Blood Glucose Control

LESSON OVERVIEW: This lesson contains activities and discussion suggestions designed to develop an understanding and taking control of Diabetes. Facilitators and learners can develop skills for dealing with blood glucose control.

Welcome & Introductions:

Welcome learners to the class. Re-introduce yourself and have learners introduce themselves to other class members.

Review highlights from the previous lesson encouraging learners to adhere to their goals. Today's lesson will teach how managing Diabetes can reduce the risk of developing diabetes-related health problems.

A. Concept

The importance of controlling blood sugar.

Method: Facilitator starts the lesson by asking the learners what they think are the health implications caused by uncontrolled blood sugar level. The facilitator will provide a poster showing the most serious health problems that are caused by Diabetes.

B. Concept

Individuals can learn to recognize acceptable blood sugar levels.

Method: Facilitator will ask the learners to identify the range considered safe to prompt discussion. Then a chart will be discussed.

C. Concept:

Individuals can learn strategies to maintain acceptable blood sugar levels.

Method: Facilitator will ask learners to identify lifestyle behaviors to manage Diabetes. The facilitator will list these behaviors on the board. The facilitator will provide the *Take an Active Approach Model* to add other behaviors to the list.

D. Concept:

Identifying positive food selection skills that will keep Diabetes under control.

Method: Facilitator will ask learners what they think are positive eating habits that will control Diabetes. Review concepts B and C from Lesson 1. The facilitator will then ask the learners if they know how to read food labels. A handout on Using the Food Label is distributed to the class. Using the Food Label sheet, exercises are done in order to determine if the learners understand this concept.

The facilitator will then introduce the learners to the exchange list concept. The Food Guide for Healthy Bodies is distributed to the learners. The facilitator will discuss what the numbers mean and how they are used. By using the food label handout, learners can determine what the exchanges are and how food items and servings work into their meal plan and the Food Guide for Healthy Bodies.

E. Concept:

There are ways to determine if the blood sugar plan is working.

Method: Facilitator will ask learners to identify several ways to monitor blood glucose levels. Facilitator will lead group in discussion of how diabetes management is determined without blood glucose monitoring equipment. Facilitator will describe how the Control Plan Sheet helps with blood glucose management. Facilitator will show the flaws and weaknesses of these approaches.

F. Concept:

Support groups can help individuals manage their diabetes.

Method: The facilitator will distribute a list of support groups available for diabetics as well as for their family members.

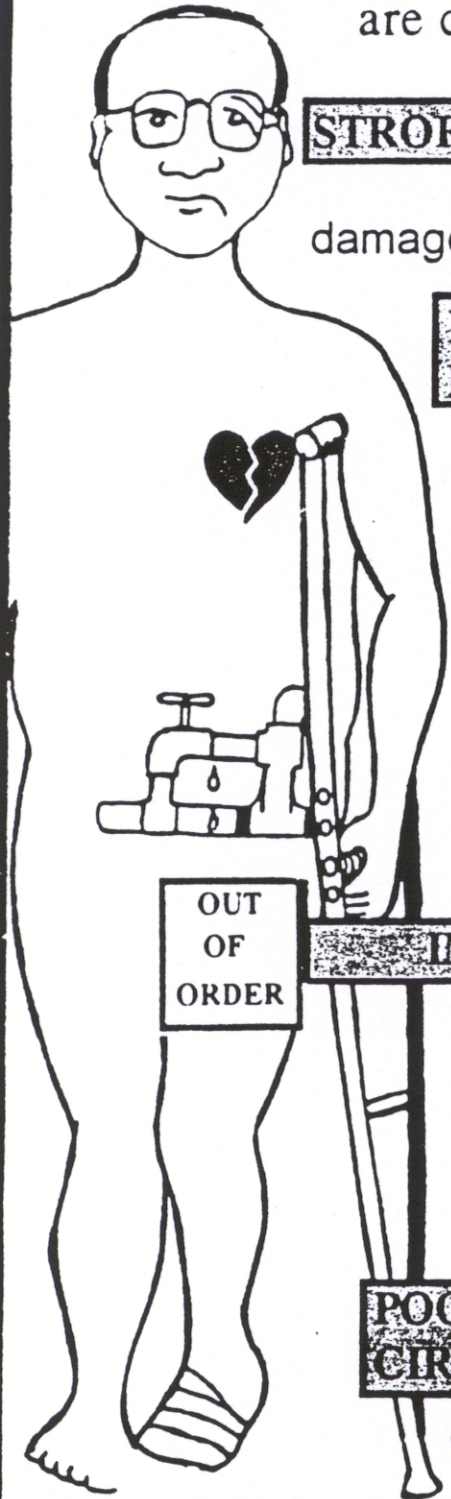
CLOSURE:

Lesson Summary:

- Review the main concepts of the lesson. Learning about the experiences of other participants can help the group identify common concerns.
- Strategies for overcoming problems concerning blood glucose levels can result from increased understanding of personal beliefs.
- Ask if participants have questions or have identified points needing clarification.
- Conduct the evaluation of the workshop.

Why is controlling my blood sugar so important?

Because uncontrolled blood sugar is what leads to the most serious health problems that are caused by Diabetes.



STROKE

Having high blood sugar can lead to damaged blood vessels in the brain...

EYE DISEASE

...in the eyes

HEART ATTACK

...and in the heart.

KIDNEY DISEASE

It can also damage nerves and lead to problems with the plumbing and the mechanics of your body.

OUT OF ORDER

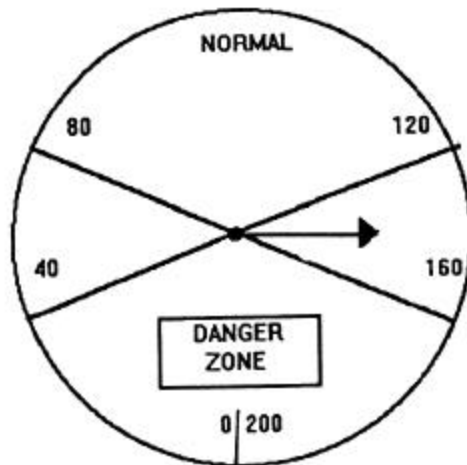
IMPOTENCE

POOR CIRCULATION

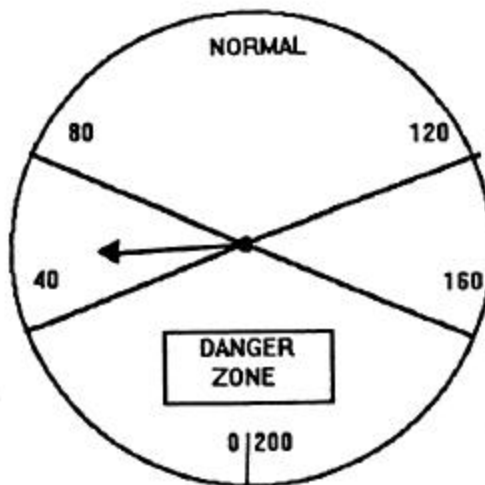
Poor circulation (the end result of blood vessel damage) can eventually lead to amputations.

What should my blood sugar be?

*Eating too much food, especially sweet foods;
Drinking beverages that contain sugar or alcohol;
Not taking insulin or medication as prescribed;
will cause your blood sugar to go too **high**.....*

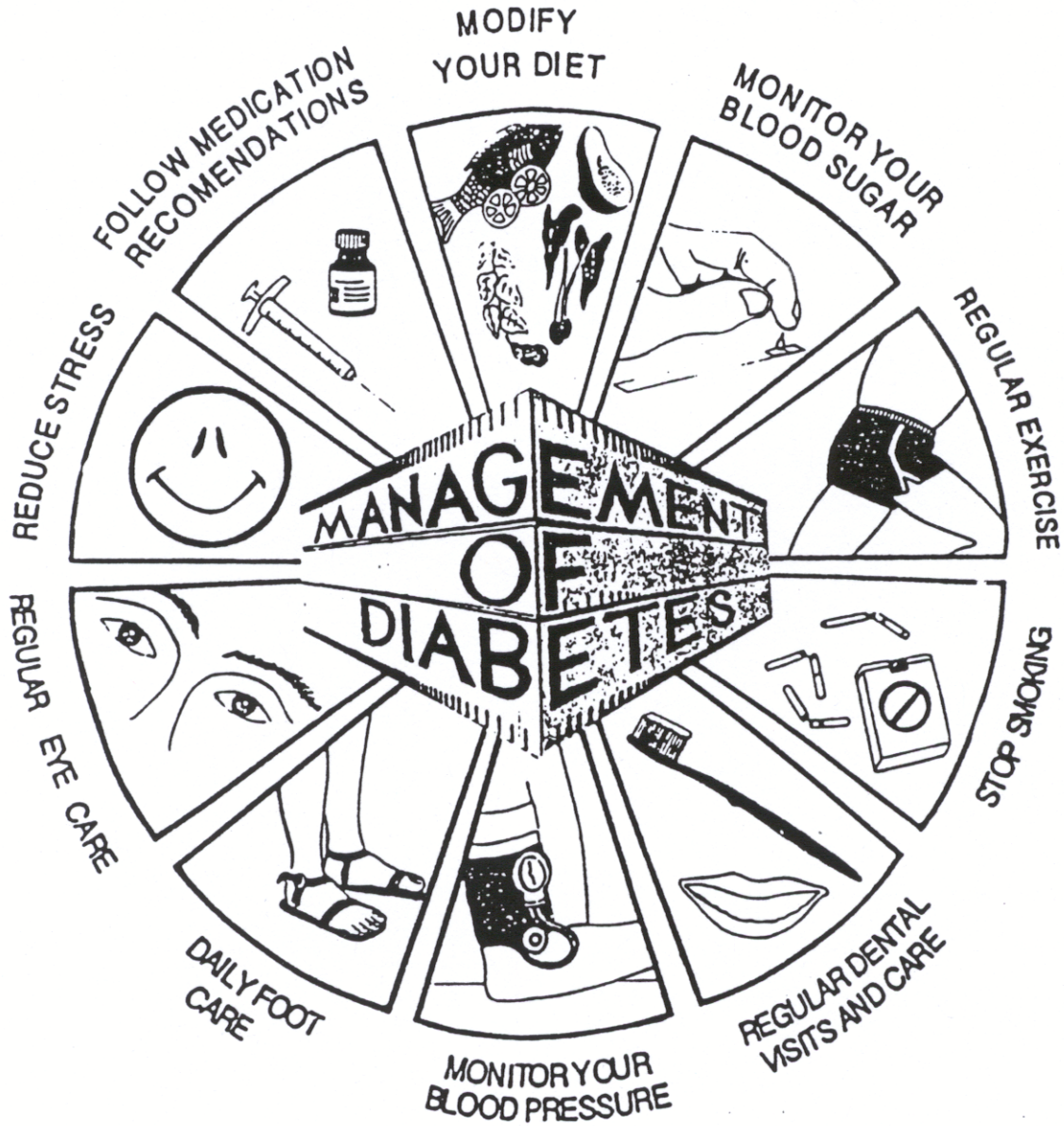


*Not eating on time;
Taking too much insulin or diabetes medicine;
Too much exercise;
will cause your blood sugar to go too **low**.....*



Source: Guam Public Health. (1994). Taking Control Of Your Diabetes (1st ed.). [Leaflet]. Mangilao, GU: Author.

TAKE AN *Active* APPROACH



Source: Guam Public Health. (1994). Taking Control Of Your Diabetes (1st ed.). [Leaflet]. Mangilao, GU: Author.

Nutrient Content by Food Group

Food Group	Carbohydrates (grams)	Protein (grams)	Fat (grams)	Calories (grams)
Starch	15	3	trace	80
Protein/Meat				
Lean(Meat A)	—	7	3	55
Medium-fat (Meat B)	—	7	5	75
High-fat (Meat C)	—	7	8	100
Vegetable	5	2	—	25
Fruit	15	—	—	60
Calcium/Milk				
Skim	12	8	trace	90
Lowfat	12	8	5	120
Whole	12	8	8	150
Fat	—	—	5	45

Diabetes

Q

Food Label Logic

Check your nutrition savvy with this quiz. (See other side for answers.)

U

True False

1. Nutrition label and diabetes meal plan serving sizes (exchanges) are the same.

I

True False

2. Food label claims can help you follow your diabetes meal plan.

Z

True False

3. You can use % Daily Value to determine how much fiber is in a serving of food compared to the Daily Value for a 2,000 calorie reference diet.

What is diabetes mellitus?

When you have diabetes, your body does not produce or properly use insulin. Insulin is a hormone that is needed to convert sugars, other carbohydrates, protein, and fat into energy needed for daily life. The management of diabetes has three parts: food, activity, and medication (if needed). A balance of these three parts leads to good management of your diabetes. If these are not balanced, too much sugar can build up in your blood.

How can the new food label help me to manage my diabetes?

Your health professional has probably recommended that you eat less fat, less sugar, less sodium, and more dietary fiber. All of these nutrients are listed on the nutrition label.

The Percent Daily Value (% Daily Value) gives a general idea of how much fat, sodium, carbohydrate, or dietary fiber a serving contributes to a 2,000 calorie reference diet. You can use % Daily Value to quickly identify foods that might be lower in fat and sodium, and higher in fiber.

Can nutrient content claims on the label help me to manage my diabetes?

A nutrient content claim is a label word or phrase that describes the amount of a nutrient in a serving of food. "Low fat," "calorie free," and "sugar free" are examples of claims that may help you follow your diabetes meal plan. These claims can only be used if a food meets strict government definitions. Even if a food makes a label claim, it is still a good idea to read the Nutrition Facts label.

What's the difference between nutrition label serving sizes and the diabetes meal planning (exchange list) serving sizes?

The diabetes meal planning serving sizes are often different from the serving sizes used on labels. Foods in the diabetes meal plan are divided into different groups, called

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
Calories 260		Calories from Fat 120	
		% Daily Value*	
Total Fat	13g		20%
Saturated Fat	5g		25%
Cholesterol	30mg		10%
Sodium	660mg		28%
Total Carbohydrate	31g		10%
Dietary Fiber	0g		0%
Sugars	5g		
Protein	5g		
Vitamin A	4%	Vitamin C	2%
Calcium	15%	Iron	4%
* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs:			
		Calories 2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

exchanges, with similar amounts of carbohydrate, protein, fat, and calories. The serving sizes on the food label are based on the average amounts of food usually eaten at one time. Here are a few examples:

Food	Diabetes Meal Plan (Exchange List) Serving Size	Sample Food Label Serving Size
Bread	1 slice	2 slices (50 g)
Cereal, ready-to-eat flakes	$\frac{3}{4}$ cup	1 cup (28 g)
Luncheon meat	1 ounce	3 slices (55 g)
Orange juice	$\frac{1}{2}$ cup	1 cup (240 mL)
Grape juice	$\frac{1}{3}$ cup	1 cup (240 mL)
Pasta	$\frac{1}{2}$ cup cooked	1 cup cooked (140 g)
Margarine	1 teaspoon	1 tablespoon (14 g)

Chart abbreviations:

g=grams; mg=milligrams; mL=milliliters

More about Nutrition Labels

Some nutrition labels provide exchange list information. If you do not see it on the label, some food manufacturers can provide this information upon request. Exchange lists are groups of food used to simplify meal planning.

ANSWERS TO THE QUIZ (See other side for quiz.)

1. False. Food label and exchange list serving sizes can be very different.
2. True. Food label claims, such as "calorie free" and "high fiber" can help you follow your diabetes meal plan.
3. True. % Daily Value can help you compare foods and see how the amount of a nutrient in a food fits in a 2,000 calorie reference diet.

► **More nutrition questions? Need help finding a registered dietitian?** Call The American Dietetic Association's National Center for Nutrition and Dietetics at 1-800-366-1655.

Other sources of nutrition information include the FSIS Meat and Poultry Hotline at 1-800-535-4555, the FDA Seafood Hotline at 1-800-FDA-4010 (1-800-332-4010), local Cooperative Extension Agents, and FDA Public Affairs Specialists. Call or write the food manufacturer for information about specific products.

For more information on diet and diabetes, contact the American Diabetes Association at (703) 549-1500 or the local affiliate in your area. The phone number can be found in the white pages of the telephone book.

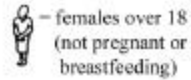
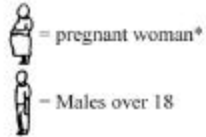
The information in this fact sheet is intended to provide general guidance for healthy adults based on government recommendations for a healthful diet. It is not intended to replace professional medical guidance from a qualified health care professional. For specific advice concerning diet and health, consult a registered dietitian, qualified health professional, or physician. The National Food Processors Association does not endorse any particular dietary pattern and is not responsible for any specific diet or health advice provided here.

This fact sheet was developed as part of *Label Facts for Healthful Eating*, an education kit produced by the National Food Processors Association in Washington, D.C. For more information on how to order a complete set of 16 fact sheets, contact The Mazer Corporation, Food Label Fact Sheets, 2501 Neff Road, Dayton, Ohio 45414.



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The food guide pyramid can help you choose what and how much to eat from the Energy, Protective, and Growth food groups. Choosing the right kinds and amounts of foods will help you enjoy better health.



Growth foods =
 1 serving is:
 1 oz. meat or fish (piece the size of a deck of cards)
 1 1/2 to 2 oz of cheese (2 slices)
 8 oz. milk or plain yogurt
 1/4 to 1/2 cup beans
 1 egg

Energy foods =
 1 serving is:
 1/3 cup cooked rice
 2 crab or ship biscuits
 1 slice of bread
 1 ounce cold ready-to-eat cereal

Protective foods =
 1 serving is:
 1/2 cup cooked, dried or chopped raw vegetables
 1 cup raw leafy vegetables
 1 medium raw fruit or vegetable
 1/2 cup 100% pure fruit juice

○ = 1 serving



DAILY FOOD GUIDE FOR HEALTHY BODIES

Source: Guam Cooperative Extension. (1996). Daily Food Guide for Healthy Bodies (1st ed). [Leaflet]. Mangilao, GU: Author.

A New Tool for Blood Glucose Control

After meals many people with Type II diabetes have very high blood glucose levels. A new medication called acarbose (trade name Precose®) slows carbohydrate digestion and smoothes out blood glucose levels.

How does acarbose work? Acarbose is taken with the first bite of a meal. It inhibits the enzymes that help the body break down the carbohydrates we eat. By delaying digestion, the blood glucose level does not get so high. This may help diabetes control.

Your doctor will start you on a small dose and slowly increase it. Since digestion of starches and some sugars are delayed, bacteria has time to digest some of the carbohydrate. This can result in stomach cramps, gas and diarrhea. Taking a small dose at first reduces the risk of these side effects. Even if the side effects do occur, they usually go away in a few weeks.

How do you know if you might benefit from acarbose? Test your blood sugars before and two hours after meals. If your blood glucose is higher two hours after a meal than the target value you and your doctor want, acarbose may help. Only frequent blood glucose monitoring can tell you if acarbose is right for you.

Acarbose alone does not cause blood glucose levels to get too low (hypoglycemia). However when it is combined with insulin, some diabetes pills and other drugs, the risk for hypoglycemia increases.

Acarbose does not replace good nutrition and exercise. It will not allow you to eat anything you want. It is just another way to help you control your diabetes when good nutrition and activity are not enough.

Source: Crawley, C. & Reardon, A. (1997). A New Tool for Blood Glucose Control. Diabetes Life Lines, 11 (1) , 1&4.

Lesson At A Glance

Lesson 3: Understanding Gestational Diabetes

Main Message: *Understanding gestational diabetes may help prevent health problems for mother and baby*

	Concept... What we teach	Method... How we teach	Results... Why it is being taught	Resources... What is needed to teach
A	How gestational diabetes develops during pregnancy	Facilitator will ask the learners to describe how Type 1 and Type 2 Diabetes, and Gestational Diabetes are different.	Learner will be able to... identify the differences between normal, Type 1 and Type 2 Diabetes, and Gestational Diabetes	<ul style="list-style-type: none"> Types of Diabetes chart transparency 1
B	How to identify women who are at risk for Gestational Diabetes	Facilitator will guide the learners to identify the risk factors for Gestational Diabetes by completing a checklist.	Learner will be able to... recognize risk factors for Gestational Diabetes	<ul style="list-style-type: none"> Who's At Risk checklist transparency 2
C	Recognizing health implications for the infant resulting from Gestational Diabetes	Facilitator will ask the learners what they think the risks are.	Learner will be able to... recognize the health implications are for the infant	<ul style="list-style-type: none"> Examples of complications resulting from Gestational Diabetes transparency 3
D	Preventing health problems for mother and baby	Facilitator will guide the learners in developing a balanced control plan in order to control blood sugar during pregnancy.	Learner will be able to... identify a balanced control plan in order to control blood sugar during pregnancy	<ul style="list-style-type: none"> Control Plan Sheet see lesson 1
E	There are tools to determine if the sugar control plan is working	Facilitator will guide the learners to identify several different ways to monitor blood glucose levels	Learner will be able to... recognize ways to monitor blood glucose levels	<ul style="list-style-type: none"> List different samples of Blood Glucose Testing Kits and information on how to obtain these kits. see lesson 1

Lesson At A Glance

- | | | | |
|--|--|--|---|
| F Support Groups can help individuals manage their diabetes | Provide listing of support groups available for diabetics as well as their family members. | Learner will be able to... identify organizations that offer support | • Listing of Support Groups available
see lesson 1 |
|--|--|--|---|

Lesson 3

UNDERSTANDING GESTATIONAL DIABETES

MAIN MESSAGE:

Understanding Gestational Diabetes may help prevent health problems for mother and baby.

OBJECTIVES:

Upon completion of this lesson, learners will be able to:

- identify the difference between normal, Type 1 and Type 2, and Gestational Diabetes;
- recognize risk factors for Gestational Diabetes;
- recognize the health implications for the infant;
- identify a balanced control plan in order to control blood sugar during pregnancy;
- recognize ways to test blood sugar levels;
- identify organizations that offer support.

MATERIALS NEEDED:

Participant materials

- Types of Diabetes chart
- Who's at Risk checklist
- Examples of complications resulting from Gestational Diabetes
- Control Plan Record Sheet
- List of different samples of Blood Glucose Testing Kits
- List of Support Groups Available

Background Information Included:

- Nutrition Management of Gestational Diabetes
- Gestational Diabetes: An Early Warning Signal

LESSON OVERVIEW: This lesson contains activities and discussion suggestions designed to help distinguish Gestational Diabetes from Type 1 and 2 Diabetes. Facilitator and learners can develop skills for dealing with Gestational Diabetes.

Welcome & Introductions:

Welcome learners to class. Re-introduce yourself and introduce any new learners to other class members. Review highlights from the last lesson encouraging learners to adhere to their goals. Today's lesson will be about Gestational Diabetes and how to prevent health problems for both the mother and baby.

A. Concept:

How Gestational Diabetes develops during pregnancy.

Method: Facilitator will ask learners to describe how Type 1 and Type 2 Diabetes, and Gestational Diabetes are different. The facilitator will list their responses on the board. The facilitator will present the Types of Diabetes chart and discuss the differences among them.

B. Concept:

How to identify women who are at risk for Gestational Diabetes.

Method: Facilitator will ask the learners to identify what they think are the risk factors for Gestational Diabetes. The Who's At Risk checklist will be distributed to the learners to give them the opportunity to assess the risk for themselves or someone they know.

C. Concept:

Recognizing health implications for the infant resulting from Gestational Diabetes.

Method: Facilitator will ask the learners what they think the risk factors are. Facilitator will list the learners responses on the board. The facilitator will provide examples of complications resulting from Gestational Diabetes.

D. Concept:

Preventing health problems for mother and baby.

Method: Facilitator will ask the learners if they know how patients are taught to control Gestational Diabetes in their community. The facilitator can ask the learners if they can share their observation with each other. The facilitator can present another type of balanced control plan that can be used during pregnancy.

Concept E:

There are tools to determine if the control plan is working.

Method: Facilitator will ask learners to identify several ways to monitor blood glucose levels. Facilitator will lead group in discussion of how diabetes management is determined without blood glucose monitoring equipment. Facilitator will describe how the Control Plan Sheet helps with blood glucose management. Facilitator will show the flaws and weaknesses of these approaches.

F. Concept:

Support groups can help individuals manage their diabetes.

Method: The facilitator will distribute a list of support groups available for diabetics as well as for their family members.

CLOSURE:

Lesson Summary:

- Review the main concepts of the lesson. Learning about the experiences of other participants can help the group identify common concerns.
- Ask if participants have questions or have identified points needing clarification.
- Strategies for overcoming problems concerning Gestational Diabetes can result from increased understanding of the problem.
- Conduct the evaluation of the workshop.

Types of Diabetes

	Type 1	Type 2	Gestational
Onset	<i>Usually in children or young adults.</i>	<i>Usually in obese adults over age 40.</i>	<i>Occurs in 3 to 12% of pregnant women.</i>
Cause	<i>Inherited and other factors lead to failure of pancreas ability to produce insulin.</i>	<i>Inherited tendency plus obesity leads to resistance of body cells to action of insulin.</i>	<i>Unknown , but hormonal and other changes may lead to high glucose.</i>
Symptoms	<i>Extreme thirst and excessive appetite, tiredness, and urination. May progress to ketoacidosis.</i>	<i>May be no obvious symptoms, or just slight fatigue, frequent thirst, and frequent urination.</i>	<i>Usually none. Fatigue, thirst, and excessive urination may occur but can be easily overlooked.</i>
Diagnosis	<i>Blood glucose test.</i>	<i>Glucose tolerance test.</i>	<i>Blood glucose screen followed by glucose tolerance test.</i>
Treatment	<i>Meal planning, exercise, and insulin injections.</i>	<i>Meal planning, exercise, and usually diabetes pills or sometimes insulin injections.</i>	<i>Meal planning, exercise, and sometimes insulin injections.</i>

Source: Jovanovic-Petersen, L., MD, & Stone, M.B. (1994). Managing Your Gestational Diabetes – A Guide for You and Your Baby’s Good Health. Minneapolis, MN: CHRONIMED Publishing, Inc.

Who's At Risk?

These factors include:

- a family history of diabetes
- a previous stillbirth
- a previous birth in which the baby weighed more than 9 pounds
- obesity, usually meaning more than 20 percent over ideal weight
- high blood pressure (hypertension)
- a history of skin, genital, or urinary tract infections
- a twin or triplet pregnancy
- age over 25

Examples of Complications Resulting from Gestational Diabetes

Babies born to women with gestational diabetes are at increased risk for:

Macrosomia (birth weight greater than 4,000 grams)

as well as other neonatal morbidities including:

Respiratory Distress

Hypoglycemia (blood glucose below the normal range)

Hypocalcemia (low blood calcium)

Polycythemia (large numbers of red cells in the blood)

Hyperbilirubinemia (high bilirubin)

Source: Asarian, Gunderson, Lee, et al. (1990). Nutrition - During Pregnancy and the Postpartum Period: a Manual for Health Care Professionals. California Department Of Health Services.

Whitney, E. N. , Catalgo, C. B. , & Rolfes, S. R. (1991). Understanding Normal & Clinical Nutrition. (3rd ed.). St. Paul, MN: West Publishing Company.

Nutrition Management of Gestational Diabetes

Gestational Diabetes is a special kind of diabetes that occurs during pregnancy. Although it disappears after delivery, a woman who has gestational diabetes is at risk for Type II diabetes.

Right now no one knows if gestational diabetes should be treated differently from other types of diabetes. Researchers are trying to decide how to distribute the carbohydrate in the diet, whether insulin should always be used, and how exercise can help.

A pregnant woman will need to gain 15-40 pounds, depending on whether she is under- or overweight. Even obese women should gain at least 15 pounds. An obese woman may need as few as 1,400 calories per day while an underweight woman may need 2,300 calories.

The mother-to-be should eat at least three meals and three snacks. Foods low in nutrition and high in table sugar are eliminated. Milk, fruit and processed cereals are limited at breakfast because they are high in simple carbohydrate and the body does not handle them well early in the morning. Breakfast may only have 15 to 30 grams of high fiber carbohydrate like whole grain toast or cooked oatmeal.

Later in the day the woman may need to avoid other foods that raise her blood sugar after meals. She can learn this by testing her blood sugar regularly. Some women have problems with tomato products, fruit juices, barbecue and teriyaki sauce, and refined foods like instant rice, instant potatoes, instant noodles and instant cereals. Only testing and keeping good food records can problem foods be discovered.

Through food, exercise and blood sugar records, the medical team can see how well the pregnant woman's diabetes is under control. If diet and exercise alone cannot keep her blood sugars below 105 mg/dl fasting or 120 mg/dl two hours after meals, insulin shot will be added.

Source: Crawley, C. & Alley, H. (1997). Nutrition Management of Gestational Diabetes. Better Health for Diabetics, 6(1), p. 2.

Gestational Diabetes: An Early Warning Signal

Often, diabetes comes as a surprise to those who get it. Sometimes, however, the disease gives a warning signal before it strikes. One type of warning is Gestational Diabetes Mellitus (GDM). GDM is a “temporary” diabetes that develops in some women when they become pregnant and “disappears” after the baby is born. Unfortunately these women are at high risk for developing permanent diabetes as they get older. Therefore, the “warning” they get -GDM- should be taken as a sign to change their lifestyle to protect themselves from diabetes later.

What can you do if you are a woman who had GDM while she was pregnant? First of all, if you are overweight, lose that weight! If you are normal weight, do not gain weight. Extra weight will increase your risk for diabetes.

After your baby was born, you may have thought that going back to your “old” diet was OK, but think again.

Remember GDM does not necessarily mean that you will develop diabetes later, so help yourself now with more healthy food choices and fewer sugary, salty and fatty snacks. For example, eat unsalted, unbuttered popcorn instead of potato chips, or snack on a fresh fruit instead of cookies.

Regular exercise will help your body use insulin better and control your appetite. If you have the “munchies”, take your new baby out for a stroll and feel good about yourself for resisting the temptation to snack.

However, before you begin any type of exercise program, ask your doctor about it. Only your doctor can tell you if you are ready to seriously exercise.

These changes can make your life healthier and you happier in the long run. Changes you make now will have long-term positive effects.

Source: Crawley, C. Gestational Diabetes: An Early Warning Signal. Better Health for Diabetics, 6 (6), p. 1.

GLOSSARY

- Calories.* Energy derived from food in order to fuel the body's needs (i.e., growth, repair, physical activity, and maintenance).
- Carbohydrates.* Compounds in our food and bodies which provide us energy. They include: sugar, complex carbohydrates (starches), and fiber.
- Glucose.* A simple sugar; it is the principle carbohydrate in mammalian blood. It is often called blood sugar.
- Hyperglycemia.* High blood glucose. This occurs when the blood glucose levels are too high. It can be a sign that diabetes is not well controlled.
- Hypoglycemia.* Low blood glucose concentration; sometimes called an insulin reaction. This occurs when blood sugar levels drop too low. This problem is corrected by eating some sugar.
- Insulin.* A hormone produced and secreted by the pancreas in response to (among other things) increased blood glucose concentrations. Insulin acts upon the body's cells as a "door opener" to allow glucose (the body's "gasoline") in to refuel them.
- Insulin Dependent Diabetes Mellitus.* A less common form of diabetes, also referred to as juvenile or type 1. It occurs because the body stops making insulin or makes only a tiny amount.
- Ketoacidosis.* Leads to diabetic coma. This is a very serious condition that can lead to death if not treated.
- Kidney.* The organ that regulates the balance of water and various particles/chemicals in the blood and the excretion of nitrogen waste products in the form of urine.
- Non-insulin Dependent Diabetes Mellitus.* A common form of diabetes, usually referred to as adult-onset or type 2. It occurs because there is either: 1) an insufficient release of insulin; 2) the body is unable to properly utilize the insulin available; or 3) the pancreas is unable to time the release of insulin to the ingestion of food.
- Pancreas.* An organ in the abdomen, just below the stomach, which produces many digestive enzymes and the hormone insulin.
- Simple sugar.* The breakdown product of compound sugars: Examples are glucose, fructose and galactose.
- Starch.* A common term for complex carbohydrates (i.e., fiber). The storage form of glucose in the body.

Source: Taitano, R. T. (1999). Unit 7 Diabetes Mellitus. Mangilao, GU: Author.

References

The American Diabetes Association, Inc. and The American Dietetic Association. (1989). Exchange Lists for Meal Planning (publication number unavailable).

Asarian, Gunderson, Lee, et al. (1990). Nutrition - During Pregnancy and the Postpartum Period: a Manual for Health Care Professionals. California Department Of Health Services.

Better Health for Diabetics - Medication, Exercise, Diet. (Vol. 6 No.6, Fall). University of Georgia Cooperative Extension Service, College of Agriculture.

Better Health for Diabetics - Medication, Exercise, Diet. (Vol. 6 No.1). University of Georgia Cooperative Extension Service, College of Agriculture.

Browne, M. B. , R.D. (1994). Label Facts For Healthful Eating - Educator's Resource Guide (2nd ed.). Dayton, OH : The Mazer Corporation.

Carstensen, K. (Ed.). (Fall 1994). Living Well with Diabetes, 9(4).

Diabetes Life Lines - Medication, Exercise, Diet. (Vol. 10 No.2, Spring 1996). The University of Georgia Cooperative Extension Service, College of Agriculture and Environmental Sciences.

Diabetes Life Lines - Medication, Exercise, Diet. (Vol. 10 No.4, Summer 1996). The University of Georgia Cooperative Extension Service, College of Agriculture and Environmental Sciences.

Diabetes Life Lines - Medication, Exercise, Diet. (Vol. 11 No.4, Winter 1997). The University of Georgia Cooperative Extension Service, College of Agriculture and Environmental Sciences.

Diabetes Life Lines - Medication, Exercise, Diet. (Vol. 12 No.3, Spring 1998). The University of Georgia Cooperative Extension Service, College of Agriculture and Environmental Sciences.

Guam Cooperative Extension. (1996). Daily Food Guide for Healthy Bodies (1st ed.). [Leaflet]. Mangilao, GU: Author.

Guam Public Health. (1994). Taking Control Of Your Diabetes (1st ed.). [Leaflet]. Mangilao, GU: Author.

Jovanovic-Peterson, L. , & Stone, M. B. (1994). Managing Your Gestational Diabetes - A Guide for You and Your Baby's Good Health. Minneapolis, MN : CHRONIMED Publishing, Inc.

Shovic, A. C. , & Pobocik, R. S. (1994). Guam Food Choices for Healthy Living based on food group lists (Agricultural Development in the American Pacific, ADAP, project number 94-3). Land Grant Institutions of the Pacific.

South Pacific Commission. (1995). Pacific Diet Advisory Leaflet - Community Health Services - Diabetes No.2 [Leaflet]. New Zealand: Author.

Teissier, Rosario, Finau, et. al. (1993). Prevention of Non-Communicable Diseases in the Pacific - A Training Module for Social Mobilization and Community Action. Noumea, New Caledonia: South Pacific Commission.

The Sugar Association, Inc. Questions Most Frequently Asked About Diabetes (10M 9.90).

U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health. (March 1987). Non-insulin Dependent Diabetes (NIH Publication No. 87-241).

Youngberg, W. , Brinegar, C. , Rarick, J. , & Imanil Jr., V. R. (1997). Diabetes Care On Guam - Guidelines for Prevention, Early Detection and Treatment. Guam: Chronic Disease Prevention and Control Section Diabetes Control Program, Department of Public Health and Social Services.