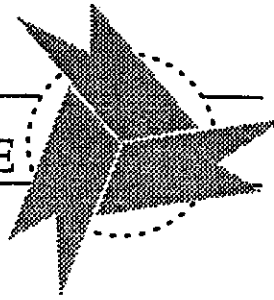




Texas Agricultural Extension Service

HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



**HEALTHY FOOD CHOICES FOR DIABETICS
AN EXTENSION SHORTCOURSE OR LESSON SERIES
FOR COUNTY EXTENSION AGENTS**

**Health food Choices for Diabetics: An Extension
Shortcourse or Lesson Series for County Extension
Agents**

HEALTHY FOOD CHOICES FOR DIABETICS

Lessons:

- I. Living with Diabetes Mellitus**
- II. Dietary Treatment of Diabetes**
- III. Becoming Familiar with the Diabetic Exchanges for Meal Planning**
- IV. Interpreting Nutritional Labels for Diabetics**
- V. Diabetics View Food Measures, Ingredient Labels, and Non-Nutritive Sweeteners**
- VI. Eating Mixed Dishes and/or Away From Home Using Diabetic Exchanges**



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Teacher's Guide

LESSON I

LIVING WITH DIABETES MELLITUS



This lesson's objectives are for the participants to discuss:

- reactions to a prescribed diet for control of diabetes;
- individual eating and exercise habits Types I (Non-Insulin-Dependent Diabetes) and II (Insulin-Dependent Diabetes) Diabetes; and
- the dietary guidelines for health organizations.

MATERIALS NEEDED FOR LESSON I

1 "Dealing with the Diabetic Diet" L-1502

Handout: Basic Risk Factor Analysis for Diabetes (duplicate*)

Handout: Food Preference Questionnaire

Handout: Homework sheets (Diabetic Meal Plan and Food Exchange Questionnaire)

Handout: What is Insulin-Dependent Diabetes? (duplicate*)

Handout: What is Non-Insulin-Dependent Diabetes? (duplicate*)

Visual: Incidence

Visual: Number Texans

Visual: Blood Sugar Levels

Visual: Comparison of Types I and II Diabetes

Visual: Did You Know?

Visual: Two Major Aims of Treatment

Visual: Dietary Guidelines from Health Organizations

Visual: Dietary Guidelines Recommend

Visual: Treatment/Control = Good Balance

* Pamphlets (enclosed and permission has been granted by the Texas Affiliate from the American Diabetes Association for reproduction of these pamphlets.)

Obvious weakness and fatigue Tingling, numbness in fat
Nausea and vomiting Easy fatigue
 Skin infections and slow healing

If you or your family members have any of these symptoms, see your doctor immediately.

In mild cases of diabetes, only one or two of these symptoms may be present. In older people there may be a lack of any symptoms. They may simply not feel well. In juvenile diabetics the symptoms may occur suddenly.

3. Some people may not know what diabetes is. Review the definition. (Refer to Abnormal Carbohydrate Section - L-1502.)

II. Discussion of Diabetes Mellitus

A. Exactly What is Diabetes?

Diabetes is a major cause of heart disease, kidney disease, stroke, blindness and amputation. Please take just a moment to learn about this devastating disease that affects 11 million (1 in 21) Americans. (Visual 1) In Texas, 800,000 people are diabetic with 400,000 unaware that they have the disease. (Visual 2)

You are at risk if you:

- Have a family history of diabetes
- Are overweight
- Are over the age of 40

If you are Black, Hispanic, or have American Indian ancestry, your risk of having diabetes is much greater. For example, Mexican-Americans are 3 to 5 times more likely to develop diabetes than Anglos and Blacks have a 33 percent higher rate of diabetes than Anglos.

Diabetes is a disease condition in which either the body produces inadequate amounts of insulin or the insulin produced is not being used. Insulin functions in the body by transporting the sugar from the blood into the cells of the body. The cells of the body then use the sugar (which is glucose) for energy or store it as fat. Therefore, if insulin is lacking, the cells of the body are starved for energy while the sugar in the blood reaches abnormally high levels. Eventually, the blood sugar, glucose, reaches levels high enough to be "spilled over" via the kidneys into the urine.

Without insulin in adequate amounts or enough insulin to work effectively, the body's glucose cannot move from the blood into the cells as well. When this happens, there is a build-up of glucose in the bloodstream. In fact, the diabetic's fasting blood sugar may be anywhere from 150 to 400 mg/100cc blood serum compared to normal of 70 to 105 mg/100 cc blood serum (Visual 3). Then, so much glucose accumulates that the surplus must be eliminated by the kidneys and passed off in the urine. To simplify this

be producing two or three times the normal amount of insulin, but it just can't do its job. Approximately 75 percent of the people with non-insulin-dependent diabetes are obese at the time the diagnosis is made. It is believed that the appearance of many cases of non-insulin-dependent diabetes could be prevented if people maintained a reasonable body weight and physical fitness. In other words, the development of non-insulin-dependent diabetes is affected by the way you live.

A strong heredity factor is also involved in the development of non-insulin-dependent diabetes. If you have inherited a tendency to develop non-insulin-dependent diabetes and impose obesity and a sedentary lifestyle on this, the likelihood of your developing non-insulin-dependent diabetes is increased. The American Diabetes Association has reported that the risk of developing non-insulin-dependent diabetes doubles with every 20 percent of excess weight above that deemed desirable for sex, age, and height.

Now show the Comparison of Types I and II Diabetes (Visual 4) and discuss the main differences.

(Visual 5) Some 10 to 12 percent of Hispanics have diabetes mellitus with 95 percent of the non-insulin-dependent type. Mexican-Americans are 3 to 5 times more likely to develop diabetes than Anglos, and Blacks experience a 33 percent higher rate of diabetes than Anglos. Review the development of insulin-dependent diabetes which cannot be prevented by any means at the present time. Even if you have inherited a tendency to develop non-insulin-dependent diabetes, its development can often be prevented or at least delayed by making a few changes in the way you live:

- 1) adhering to healthy eating habits
- 2) maintaining a reasonable body weight, and
- 3) keeping physically fit--even if you have inherited a tendency for its development.

Although it sometimes requires oral medication, non-insulin-dependent diabetes most often is treated through diet and exercise. The primary aims of the treatment of diabetes are to control blood sugar levels in the blood and to prevent serious complications (Visual 6).

III. Exercise Important for Diabetics

The American Diabetes Association recommends to try to prevent non-insulin-dependent diabetes to exercise regularly. Exercise helps to maintain healthy weight and body composition (ratio of fat to muscle). Being overweight usually is due to eating more food than the body uses for energy. How can you help balance the food you eat with the energy you use? Any extra movement burns calories and makes weight control easier. So...

- Walk instead of driving short distances.
- Get off the bus one or two stops before your destination.

A healthy diet using the USDA Dietary Guidelines is the Hassle-Free Guide to a Better Diet (L-1831). (Review the number of servings from each food group.)

Write the following meal plan on the board:

Roast Beef with Brown Gravy
Baked Potato Broccoli with Hollandaise Sauce
 Roll with Butter
Sliced Texas Strawberries
Iced Tea

Ask the audience to compare it to the Hassle-Free Guide to a Better Diet (L-1831) and decide what is missing (Milk). What changes could be made to make this meal lower in fat and calories?

To practice with planning a balanced diet, prepare two posters on which are posted a day's menus in pictures or food models. One day should be balanced, the other unbalanced. Don't go out of your way to put many sweets on the unbalanced day. This will make the exercise too obvious. Ask the group to assess which day's menu is:

- 1) more fattening
- 2) more balanced
- 3) most like their own.

Emphasize that a healthy diet for a non-diabetic person is a healthy diet for a diabetic person. There are no special requirements for a diabetic diet. You might want to mention the fact that most diabetic persons eat a healthier diet than most non-diabetic persons. When the discussion has gone on long enough for the group to have presented a number of ideas about what a balanced diet is with some of them conflicting, stop the group and review what is meant by a balanced diet. Ask members of the group how they can improve their diet.

Note: Most people will usually choose the unbalanced diet as the best because it contains the most protein and the least carbohydrate. Most people believe that starch is fattening and the more meat you eat the better your diet is. It is important to emphasize:

- 1) diabetic persons can eat starch
- 2) a diet without starch is not balanced, and
- 3) leaving off bread and potatoes does not make a diabetic diet.

Distribute the Food Questionnaires. Explain the purpose of the questionnaire--to help the dietitian develop a meal pattern which will be compatible with food preferences. The questionnaires need to be completed before the end of the lesson. Either go through the questionnaire with the class or allow them time to complete them on their own. From the information in the questionnaire, you may be able to tell which topics need to be emphasized during the following classes. You may also find some areas in which people need individual diet counseling.

VII. Meal Pattern Development

Each participant should have a diet pattern based on a diet prescription ordered by their physician. The diet pattern should fit the individual's lifestyle and food preferences. The participant should have the diet pattern before the second lesson. It is helpful to attach the "Diabetic Diet Prescription" form to the "Food Preference Questionnaire."

VIII. Follow-up to Lesson I

- A. Assign Diabetic Meal Plan and Food Exchange handout, to be completed and returned at next lesson.
- B. Collect all Food Questionnaires.

For more information

Call us at 1-800-ADA-DISC for your *free* publications catalog. Also ask about ADA's *free* quarterly newsletter for people with diabetes.

What is Insulin-Dependent Diabetes?

(Type I Diabetes)

es Rights and Responsibilities Ri
ems Health-care Systems Health
es Community Resources Commu
eneral Facts General Facts Gener
oping Coping Coping Coping Cop
amily Family Family Family Famil
utrition Nutrition Nutrition Nutrit
xercise Exercise Exercise Exerci
edications Medications Medicati
Balance: Food, Exercise, Medicine
esting Testing Testing Testing Te
mia Hyperglycemia/Hypoglycemia
iness Illness Illness Illness Ilne
omplications Complications Comp
ersonal Habits Personal Habits P
ies Rights and Responsibilities Ri
tems Health-care Systems Health
es Community Resources Comm
eneral Facts General Facts Gener
oping Coping Coping Coping Cop
y Family Family Family Family F

American Diabetes Association,
 Diabetes Information Service Center
 1860 Duke Street
 Alexandria, VA 22314
 Tel: 800-ADA-DISC
 (In VA, Washington, D.C., Metro area, 703-549-1500)

Copyright © 1989 by the American Diabetes Association, Inc.



3/89-100M



For more information

Call us at 1-800-ADA-DISC for your *free* publications catalog. Also ask about ADA's *free* quarterly newsletter for people with diabetes.

What is Non-Insulin-Dependent Diabetes?

(Type II Diabetes)

es Rights and Responsibilities Ri
 ems Health-care Systems Health
 es Community Resources Commu
 eneral Facts General Facts Gener
 oping Coping Coping Coping Cop
 amily Family Family Family Famil
 utrition Nutrition Nutrition Nutrit
 xercise Exercise Exercise Exerci
 edications Medications Medicatio
 Balance: Food, Exercise, Medicine
 asting Testing Testing Testing Te
 mia Hyperglycemia/Hypoglycemia
 Iness Illness Illness Illness Illne
 omplications Complications Comp
 ersonal Habits Personal Habits P
 ies Rights and Responsibilities Ri
 tems Health-care Systems Health
 es Community Resources Commu
 eneral Facts General Facts Gener
 oping Coping Coping Coping Cop
 y Family Family Family Family F

American Diabetes Association,
 Diabetes Information Service Center
 1660 Duke Street
 Alexandria, VA 22314
 Tel: 800-ADA-DISC

(In VA, Washington, D.C., Metro area, 703-549-1500)

Copyright © 1988 by the American Diabetes Association, Inc.



3/89-100M





BASIC RISK FACTOR ANALYSIS FOR DIABETES

NOTE: This form is not intended to take the place of a complete physical examination and assessment by your physician.

A low score does not mean that you will not develop diabetes, nor does a high score mean that you will develop diabetes. This form was designed to help you learn about many of the risk factors associated with diabetes and is provided as an EDUCATIONAL service only.

INSTRUCTIONS: Answer the following questions relating to risk factors associated with diabetes; add up your numerical score and refer to the back of the page to establish your level of risk (NOTE: Do not add any points for a NO answer).

- | | | | |
|--|-----------------------------|-----------------|--|
| 1. I have a parent with non-insulin dependent diabetes (Adult Onset, Type II) | No <input type="checkbox"/> | Yes Add 12 | |
| 2. I have an identical twin with non-insulin dependent diabetes (Adult Onset, Type II) | No <input type="checkbox"/> | Yes Add 95 | |
| 3. I have a brother or sister with non-insulin dependent diabetes (Adult Onset, Type II) | No <input type="checkbox"/> | Yes Add 20 | |
| 4. I have a parent with insulin dependent diabetes (Juvenile, Type I) | No <input type="checkbox"/> | Yes Add 8 | |
| 5. I have a brother or sister with insulin dependent diabetes (Juvenile, Type I) | No <input type="checkbox"/> | Yes Add 15 | |
| 6. I have an identical twin with insulin dependent diabetes (Juvenile, Type I) | No <input type="checkbox"/> | Yes Add 55 | |
| 7. I am of Mexican-American parentage | No <input type="checkbox"/> | Yes Add 20 | |
| 8. I am taking cortisone, prednisone or a diuretic | No <input type="checkbox"/> | Yes Add 10 | |
| 9. I weigh 30 percent more than my ideal body weight (use table below) | No <input type="checkbox"/> | Yes Add 15 | |
| TOTAL (add up all points): | | | |

REMEMBER: Add points for YES answers only.

WEIGHT TABLE FOR WOMEN

Look for your height (without shoes) in the far left column and then read across to find the category into which your weight (in indoor clothing) would fall.

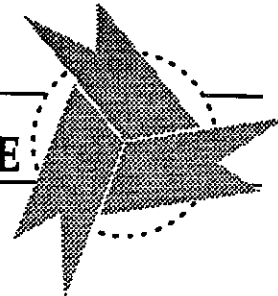
FT	IN	IDEAL	20%	30%	50%
4	8	up to 101	102-122	123-143	144 plus
4	9	up to 103	104-125	126-146	147 plus
4	10	up to 106	107-128	129-150	151 plus
4	11	up to 109	110-132	133-154	155 plus
5	0	up to 112	113-136	137-158	159 plus
5	1	up to 115	116-139	140-162	163 plus
5	2	up to 119	120-144	145-168	169 plus
5	3	up to 122	123-148	149-172	173 plus
5	4	up to 127	128-154	155-179	180 plus
5	5	up to 131	132-158	159-185	186 plus
5	6	up to 135	136-163	164-190	191 plus
5	7	up to 139	140-168	169-196	197 plus
5	8	up to 143	144-173	174-202	203 plus
5	9	up to 147	148-178	179-207	208 plus
5	10	up to 151	152-182	183-213	214 plus
5	11	up to 155	156-187	188-218	219 plus
6	0	up to 159	160-191	192-224	225 plus
6	1	up to 163	164-196	197-229	230 plus

WEIGHT TABLE FOR MEN

Look for your height (without shoes) in the far left column and then read across to find the category into which your weight (in indoor clothing) would fall.

FT	IN	IDEAL	20%	30%	50%
5	1	up to 123	124-148	149-173	174 plus
5	2	up to 126	127-152	153-178	179 plus
5	3	up to 129	130-156	157-182	183 plus
5	4	up to 132	133-160	161-186	187 plus
5	5	up to 135	136-163	164-190	191 plus
5	6	up to 139	140-168	169-196	197 plus
5	7	up to 144	145-174	175-203	204 plus
5	8	up to 148	149-179	180-209	210 plus
5	9	up to 152	153-184	185-214	215 plus
5	10	up to 157	158-190	191-221	222 plus
5	11	up to 161	162-194	195-227	228 plus
6	0	up to 165	166-199	200-232	233 plus
6	1	up to 170	171-205	206-239	240 plus
6	2	up to 175	176-211	212-246	247 plus
6	3	up to 180	181-217	218-253	254 plus
6	4	up to 185	186-223	224-260	261 plus
6	5	up to 190	191-229	230-267	268 plus
6	6	up to 195	196-235	236-274	275 plus

(See Back for Appraisal Section)



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

HANDOUT 5

FOOD PREFERENCE QUESTIONNAIRE Lesson I

1. Name of diabetic: _____

2. Age of diabetic:

_____ under 16
_____ 16-25
_____ 26-55

_____ 56-74
_____ 75+

3. Sex of diabetic: _____ Male _____ Female

4. Occupation of diabetic: _____

5. If you are attending these lessons because of your concern with the diabetic diet of someone else, please give your name.

Your name: _____

The person on the diabetic diet is:

_____ my husband
_____ my wife
_____ my child

_____ my father
_____ my mother

6. Does the diabetic have business or social activities which usually include refreshments?

_____ Yes _____ No

If yes, what does the diabetic eat or drink? _____

7. Where does the diabetic purchase most of his (or her) groceries?

_____ supermarket _____ smaller neighborhood store

8. Does the diabetic buy food at a health food store?

_____ frequently _____ once in a while _____ never

9. Check () the following convenience foods which you often use:

_____ canned or dehydrated soups _____ frozen main dishes
_____ frozen dinners _____ carry-out foods
_____ vending machine foods _____ canned mixed dishes
such as stews

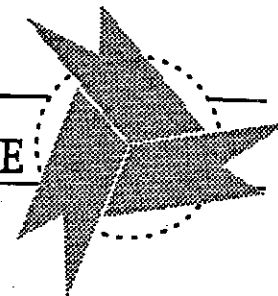
10. Do you use any of the following? If "yes" check (✓)

_____ dietetic soft drinks _____ dietetic canned fruits
_____ diet sweeteners

CHECK LIST (continued)

During past 24 Hours

FOOD	YES	NO	HOW MUCH	WHAT MEAL		
				Morning	Noon	Evening
Fruit, canned						
Fruit, fresh						
Orange juice						
Grapefruit juice						
Pineapple juice						
Prune juice						
Dry cereal						
Cooked cereal						
Bread						
Rolls, muffins, or biscuits						
Crackers						
Cornbread						
Tortillas, corn						
Tortillas, flour						
White potatoes						
Sweet potatoes						
Rice						
Spaghetti, noodles, macaroni						
Corn						
Lima beans, green						
Baked beans						
Beef						
Fresh pork						
Ham						
Lamb						
Poultry						
Fish						
Cold cuts						
Frankfurters						
Liver						
Eggs						
Cheddar cheese						
Cottage cheese						
Peanut butter						
Nuts						
Butter						
Margarine						
Cream						
Salad dressing						
Bacon						
Oil						
Avocado						
Other						



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

DIABETIC MEAL PLAN AND FOOD EXCHANGES QUESTIONNAIRE Lesson I

HANDOUT 6

Homework - Lesson I is to be distributed at the close of Lesson I. Complete Part I at home, and bring to Lesson II. Each person will correct Part I of his own homework during the review at the beginning of Lesson II. Part II will be completed during Lesson II.

Part I

1. The calories in foods come from the carbohydrate, fat and protein in them. Practically all foods contain carbohydrate, protein, fat, and water in varying amounts. Minerals and vitamins are present in very small amounts compared to the amount of protein, carbohydrate, fat and water in foods.

The calories in foods come from:

2. In planning your diet, your physician expects that you will eat some carbohydrate, some protein and some fat at each meal.

How often must you eat some amounts of carbohydrate, of protein and of fat?

_____ once a week _____ once a day _____ each meal

3. Nearly all foods supply some sugar to the blood. Steak, bread, apples and carrots all supply some sugar to the blood.

Must a food taste sweet to supply sugar to the blood?

_____ yes _____ no

4. Foods that contain more carbohydrate than protein or fat are called carbohydrate foods. Carbohydrate foods are sugars, vegetables, fruits, breads and cereals.

In the blank next to each food below, write a "C" if it contains more carbohydrate than fat or protein.

_____ sugar	_____ carrots	_____ orange
_____ hamburger	_____ rolls	_____ honey
_____ margarine	_____ green beans	_____ tuna fish
_____ rice	_____ banana	_____ oatmeal

Name _____

Check the foods below that usually would not be included on a diabetic's meal plan:

- | | |
|--------------------------------------|---|
| <input type="checkbox"/> candy | <input type="checkbox"/> pie |
| <input type="checkbox"/> potatoes | <input type="checkbox"/> eggs |
| <input type="checkbox"/> soft drinks | <input type="checkbox"/> corn flakes |
| <input type="checkbox"/> honey | <input type="checkbox"/> frosted flakes |
| <input type="checkbox"/> cheese | <input type="checkbox"/> milk |

9. Fresh fruits and fruit juices contain important vitamins and minerals. They are included in your diet even though they are sugar carbohydrates.

All of the foods below are simple carbohydrates. Check the ones that would be included in the special diet for a diabetic.

- | | | |
|---|---------------------------------------|--------------------------------------|
| <input type="checkbox"/> cherry pie | <input type="checkbox"/> grapefruit | <input type="checkbox"/> peaches |
| <input type="checkbox"/> watermelon | <input type="checkbox"/> coke | <input type="checkbox"/> banana |
| <input type="checkbox"/> maple syrup | <input type="checkbox"/> strawberries | <input type="checkbox"/> grape jelly |
| <input type="checkbox"/> chocolate cake | | |

10. Milk contains the mineral calcium, a nutrient not available in large enough amounts to meet human needs from any foods other than milk and milk products.

Milk also contains important amounts of protein, carbohydrate and fat. The calories in milk come from:

- protein
- carbohydrate
- fat
- all of above
- none of the above

Part II

You need two reference items to follow your diabetic meal plan order:

- (1) The Food Exchange Lists
- (2) A meal plan prepared to match your diet prescription

If you have turned in the diet order from your physician and completed the Food Preference Form, the Dietitian will have a meal pattern for you at Lesson II. Refer to your Food Exchange Lists to answer the following questions.

11. Look at the Food Exchange List which you have received at Lesson I. What are the names of the six exchange lists?

_____ Exchanges	_____ Exchanges
_____ Exchanges	_____ Exchanges
_____ Exchanges	_____ Exchanges

12. Each food on one of these lists is called an exchange because it can be "exchanged" or substituted for any other food on the same list, since all of the foods on any one list have the same caloric value because they contain the same amount of carbohydrate, protein, and fat.

**11 MILLION AMERICANS
1 IN 20 ARE DIABETICS**

800,000 TEXANS
400,000 OF WHICH ARE UNAWARE

BLOOD SUGAR LEVELS

NORMAL FASTING BLOOD SUGAR

70-105 mg/100cc Blood Serum

DIABETIC HIGH FASTING BLOOD SUGAR

150-400 mg/100cc Blood Serum

COMPARISON OF TYPES 1 AND 11 DIABETES

TYPE I **(INSULIN-DEPENDENT)**

Usually develops in youth

More severe form of diabetes

Normal weight

Pancreas loses ability to produce insulin

Hereditary tendency plus by infection by viruses

Insulin required

Diet--adequate calories to maintain weight

Incidence--10-20%

TYPE 11 **(NON-INSULIN-DEPENDENT)**

Usually develops in adults

Less severe form of diabetes

60 to 90% are obese

Pancreas can still produce insulin; problem may involve binding sites on body cells

Hereditary tendency aggravated obesity and/or high carbohydrate diet

Insulin may not be required; may be treated by diet alone and/or drugs

Restrict calories to attain and maintain normal weight

Incidence--80-90%

Did You Know?

***10 - 12 %** Hispanics have diabetes



***95 %** Hispanics have non-insulin dependent diabetes

***3 - 5** times higher rate in Mexican Americans than in Anglos

***33 %** higher rate in Blacks than in Anglos



TWO MAJOR AIMS OF TREATMENT:

***CONTROL LEVEL OF BLOOD GLUCOSE**

***PREVENT SERIOUS COMPLICATIONS**

Dietary Guidelines

from Numerous U.S. Scientific Organizations and Government Agencies such as follows:

- *American Diabetes Association**
- *National Cancer Institute**
- *American Cancer Society**
- *National Academy of Sciences**
- *U.S. Depts. of Agriculture and Health/
Human Services**
- *American Heart Association**
- *OTHERS**

DIETARY GUIDELINES RECOMMEND:

***Reduce FAT to 30% of Total Calories**

- Saturated Fatty Acids--<10%**
- Monounsaturated Fatty Acids-->10%**
- Polyunsaturated Fatty Acids-->10%**

***PROTEIN should be 20% of Total Calories**

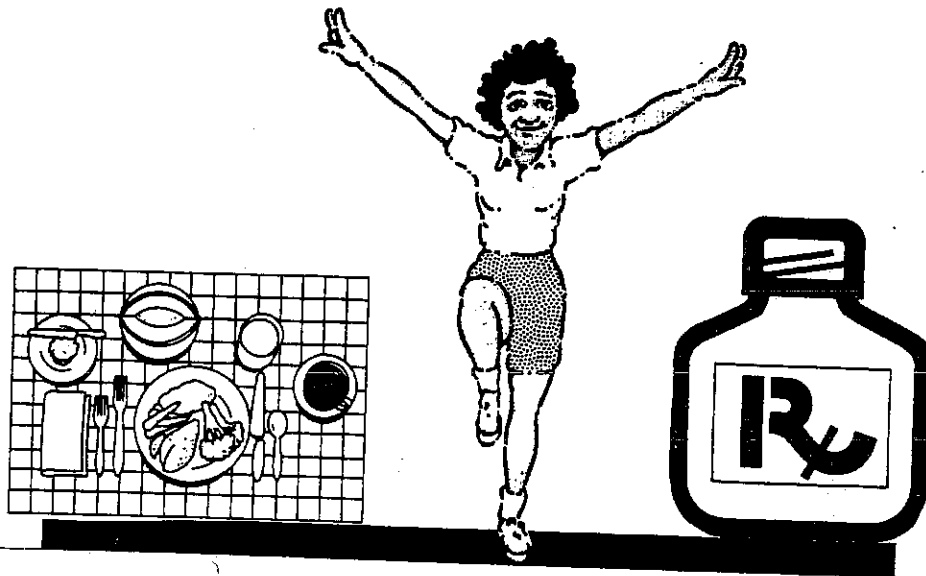
***Increase CARBOHYDRATES to 55-60%
of Total Calories**

- Decrease refined sugars**
- Increase complex carbohydrates**
- Increase fiber to 20 to 30 grams
with an upper limit of 35 grams**

***Avoid Obesity**

TREATMENT/CONTROL=

GOOD BALANCE



DIET

**PHYSICAL
ACTIVITY**

MEDICATION

PRIMARY GOAL OF EDUCATION



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Teacher's Guide

LESSON II

DIETARY TREATMENT OF DIABETES

This lesson's objectives are for the participants to:

- discuss the goals desired from the dietary treatment of diabetes to attain ideal body weight, provide basic nutritional needs, help control blood sugar levels by regulating food intake;
- identify how foods are grouped in diabetic food exchange lists depending on the composition of the foods (i.e., carbohydrate, protein, and fat); and
- have individual meal patterns developed for each participant, using the doctor's diet prescription and the food preference questionnaire.

MATERIALS NEEDED FOR LESSON II

1 Pamphlet entitled "Exchange Lists for Meal Planning" (A sample is in the Diabetic Resource Kit but participants can order from American Diabetic Association, Texas Affiliate)

Handout: Nutrition and Diabetes (duplicate*)

Handout: La Nutrición y la Diabetes (duplicate* if Spanish-speaking clientele signed up)

Handout: Food Exchange Lists

Handout: Homework Sheets - My Meal Plan

Handout: Practical Tips to Improve Nutrition and Eating Habits

Materials for Dietary Guidelines Recommendations in Food Exchange Lists

Fructose, sugar, sorbitol

Wheat bran, oat bran

Slice bread, 1 corn tortilla

Fresh turkey, luncheon meat turkey

Food models and chart/visuals from "Change of Plate" (provided by Beef Industry Council)

Raw/cooked spinach

Food Labels frozen, canned, fermented vegetables

Canned soup label

Herbs and spices with no sodium, vinegar, lemon juice

Selection of fresh fruits

Empty milk cartons (skim, $\frac{1}{2}\%$, 2%, whole and buttermilk)

Labels from cheeses

Labels from margarine, butter, several oils, shortening and bacon

Lesson Plan

LESSON TWO

DIETARY TREATMENT OF DIABETES

I. Group Discussion

Extension Agent can cover this entire lesson.

A. Activity: Food Frequency Checklist on the Food Questionnaire

Ask each participant to complete a food frequency checklist. The list is divided according to food groups. They are to go through the list and check those foods they use on a regular basis. Allow about 7 to 10 minutes. When they have finished, point out that the list is divided into food groups. Ask if there is a group with no frequently used foods. Ask if they checked a variety of foods in each group.

Now have participants discuss other sections on the food questionnaire in class. Ensure that diabetics understand the reasoning behind the answers. Diabetics can keep corrected homework for reference.

II. Have participants list on newsprint why people eat. This will help them recognize future difficulties they may have when faced with eating a variety of places and in certain social situations.

A. Nutrition for Diabetics

Then discuss that too often we think of food as pleasure rather than as nutrition. But eating puts you directly in control of your own health. (Handout: Nutrition and Diabetes (ADA) in English and duplicate for Spanish if present.)

Food contains the nutrients that are essential to good health. They allow your body to grow, maintain and repair body tissues, and balance body chemistry. These nutrients are proteins, carbohydrates, fats, vitamins, minerals, and water.

Ask them these questions. What about the person with diabetes? Aren't they going to need special dietetic foods? Don't they take vitamin and mineral supplements? Isn't the diabetic diet expensive? The answer to all these questions is, no. The person with diabetes doesn't have to use special dietetic foods nor does he/she need to take vitamin and mineral supplements. The fact of the matter is, the so-called "diabetic diet" is nothing more than a nutritionally balanced diet that is accompanied by special guidelines for blood sugar control. So what applies to the nondiabetic also applies to the diabetic person.

Healthy adults with and without diabetes all have about the same nutrient requirements, though men and women have somewhat different needs because of differences in body size and composition. However, children and pregnant women need higher amounts of nutrients and

3. The Dietary Guidelines for Healthy Americans recommended to avoid eating too much fat, saturated fatty acids and cholesterol. Proper dietary changes such as reducing dietary saturated fatty acids may reduce blood cholesterol levels.

We generally talk about unsaturated and saturated dietary fat. Unsaturated fatty acids are usually liquid at room temperature and are found in plants (vegetable oil, for example). Saturated fatty acids are usually solid at room temperature and are found in animals (think of the visible fat on meat) and in tropical oils (coconut and palm kernel oils). Cholesterol is found only in animal products such as egg yolks and organ meats. So plants can never have cholesterol unless butter or cream is added in cooking.

Excess dietary fat, particularly saturated fatty acids and cholesterol, can raise blood-glucose levels and may aid in the development of atherosclerosis, the primary culprit in stroke and heart disease. Certain kinds of cancer may also be linked to excess dietary fat. Since people with diabetes run a higher risk of developing atherosclerosis, it is especially important that they limit fat.

Texans should make some changes in their diets. Eat more fruits, vegetables, cereal grains and starches which have less saturated fatty acids and no cholesterol, and choose vegetable oils such as safflower, sunflower, corn, soybean, canola, olive, and peanut oils which have higher levels of unsaturated fatty acids and low levels of saturated fatty acids.

Buy lean meat, poultry and fish trimmed of visible fat. Buy lower fat milk products. Look for hidden sources of fat in foods. Have participants name some hidden fat sources.

4. Like fat, sodium in the diet tends to be associated with health problems, particularly high blood pressure. Many experts believe Americans consume too much sodium and that daily intake should be restricted to 3,000 mg or less per day. Current dietary recommendations to the general public is to reduce sodium in an effort to reduce the risk of hypertension. Foods alone contribute only half or less of the total dietary sodium intake. Salt added at the table, in cooking or in drinking water is often the reason for excess sodium intake.

When selecting foods, think of the method of processing as a clue to sodium present in the food. For example, fermented vegetables such as sauerkraut or pickles are extremely high in sodium content, but their fresh counterparts cabbage and cucumbers are low in sodium content.

Ask: Why is eating by food grouping method so important for everyone? Variety and moderation in eating is the best advice for all healthy people. Eating in moderation, foods provide energy and nutrients without adding many calories. Exclusion

this entire section all references to page numbers that will be used as you discuss the food groups is in relation to this ADA booklet.) Discuss the concept Food Exchange Lists. Refer to the fact sheet "Dealing With the Diabetic Diet", L-1502. Explain how each list is a grouping of foods which contain approximately equal amounts of carbohydrates, protein, and fat and calories. The exchange lists are divided into more groups than the five food groups suggested by USDA just to make food selection and calorie-counting easier. The six food exchange lists have been developed by the American Diabetes Association and the American Dietetic Association (show your copy of this booklet found in your diabetic resources kit). These exchanges contain nutritional guidelines you can use every day. Colorful charts, helpful tips on good nutrition, and easy-to-use substitution guidelines show you how to balance your diet and gain control over diabetes. These six make it easier for the diabetic to count calories for weight control, exchange lists to maintain a normal level of blood sugar, and to obtain adequate amounts of nutrients from the food he eats.

Now explain each exchange list on the Extension Exchange Lists handout. When you are using the colorful ADA Exchange Lists for Meal Planning booklet, have participants find the food groups or exchanges on the Extension handout as you discuss each list, servings, and how these support the dietary ADA "Exchange Lists for Meal Planning" with the guidelines.

Show that starch/bread has 15 grams carbohydrate and 3 grams of protein comparing it to the other five groupings. Compare it with serving from the fruit list that contains 15 grams of carbohydrate but no protein or fat. Point out that the concepts of increasing complex carbohydrates and fiber and reducing fat and sodium emphasized by the dietary guidelines are also supported in the booklet by placing of the food groupings in the order which reflects that certain food groups contain certain nutrients. For example, bread/starches high in complex carbohydrates are in List 1, and lean meats are in List 2, etc.

Discuss how any food in one exchange group can be exchanged or traded for another food within the group. Also discuss substitutions. Have participants look at the exchange lists and use examples from the lists.

(Visual 2) Now ask why can't you substitute one food such as meat for fruit? (Explain that the amounts of carbohydrate, protein, and fat vary so without some recalculation it cannot be substituted.) As you discuss each food list in the ADA "Exchange Lists for Meal Planning," follow this outline for discussing each list. Explain that the dietary guidelines have been incorporated into each exchange list.

whole and buttermilk. Compare nutrient information (i.e., fat content)

- Nutrient sources per serving and serving size: 1 cup = 1 serving
- Importance of calcium and its relationship to strong bones and teeth as well as to the prevention of osteoporosis
- Read the label for fat and sodium content. Show labels for several cheeses and the milk cartons above

6. **Fats List--to add flavor, prevent hunger and as an energy source**

- Discuss caloric value of fats, nutrient contributions in diet, etc.
- Discuss relationship of types of fat and cholesterol to development of heart disease (use information in "Change of Plate" visuals)
- Need to read labels for fat content and considerations; need to read label for sodium content
- Discuss serving sizes; 1 tsp. margarine = 1 serving or exchange (show margarine, butter, several oil, shortening, bacon labels)

C. **Caloric Contribution of Carbohydrate, Protein, and Fat**

Ask the question: Are carbohydrates fattening? No. Carbohydrates are no more fattening than any other food. In fact, ounce for ounce, they provide half the calories of fat. But any food can be "fattening" if you eat too much. It is what we top our carbohydrates with (bread with butter, baked potato with butter and/or sour cream) that increases the calorie count.

Ask the question: What is a calorie? Define a calorie as a unit of measurement of energy released when a food is burned. If too many calories are eaten, they are not burned immediately for energy but are stored as fat. (Visual 3)

Discuss the caloric contribution of carbohydrates, protein, and fat. Show page 5 of the chart showing number of calories per gram in one serving from each exchange list. Carbohydrate produces 4 calories per gram. It is found in fruits, vegetables, milk, breads, and cereals. Carbohydrate is absorbed more rapidly than protein or fat, and thus can increase blood sugar more rapidly.

Protein provides 4 calories per gram for energy. Protein's main function is to provide amino acids to repair body tissues, promote growth, and build muscles. High protein foods are meats, fish, poultry, eggs, cheese, and milk. Lower concentrations of protein are also found in vegetables, breads, and cereals. Protein intake above that needed to provide amino acids for growth and maintenance of body tissue will be burned to provide energy or stored as fat.

To represent a 3-ounce serving of cooked, lean meat, put the following objects on a meat platter:

21 building blocks (to represent the 21 grams of protein in a serving of meat)

15 hair rollers (to represent the 15 grams of fat in a serving of meat).

a deck of cards (about the size of a 3-ounce serving)

NOTE: Multi-colored sprinkles used to decorate cookies may be added to the objects to represent minerals and vitamins. Be sure to mention that these nutrients are important and are present in small quantities. Also say that minerals and vitamins do not contribute to caloric value but are needed to ensure good nutrition.

(2) To calculate the caloric value of the illustrated food serving. For example:

Each gram of carbohydrates provides 4 calories, so the 12 ping pong balls representing 12 grams of carbohydrates would provide 12×4 calories = 48 calories.

Each gram of protein provides 4 calories, so the 8 building blocks representing 8 grams of protein would provide 8×4 calories = 32 calories.

Each gram of fat provides 9 calories, so the 10 rollers representing 10 grams of fat would provide 10×9 calories = 90 calories.

Total calories in 1 cup of milk = 170 calories

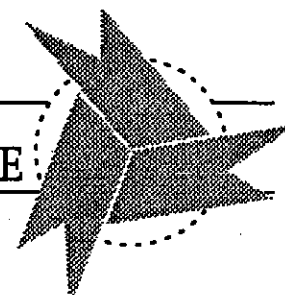
To illustrate the composition of skim milk, omit the rollers in the above example, changing the above addition to a total of 80 calories for an 8-ounce glass of skim milk. Or if you've already illustrated whole milk, remove the rollers from the pitcher for an extension of that illustration.

Let diabetics select a serving of food, and if possible, give each one a food model which indicates its composition. Have each diabetic "build" a serving of his model with ping pong balls, blocks, and rollers. As a second step, ask them to compute the caloric value of his selected serving.

IV. Practical Tips to Improve Eating Habits

Now, give participants the handout "Practical Tips to Improve Nutrition and Eating Habits for Diabetics." Ask them to review before preparing their menu.

HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



EXCHANGE LISTS FOR MEAL PLANNING Lesson II

HANDOUT 2

Starch/Bread List

List 1

This lists shows the kinds and amounts of Breads, Cereals, Starchy Vegetables and Prepared Foods to use for one serving. Each exchange contains 15 grams of carbohydrate, 3 grams of protein and 80 calories.

Bread

Bagel	½ (1 ounce)
Bread sticks, crisp, 4" long x ½"	2 (¾ ounce)
Croutons, low fat	1 cup
English muffin	½
Frankfurter or hamburger bun	½ (1 ounce)
Pita, 6" across	½
Plain roll, small	1 (1 ounce)
Raisin, unfrosted	1 slice (1 ounce)
Rye, pumpernickel	1 slice (1 ounce)
Tortilla, 6" across	1
White (including French, Italian)	1 slice (1 ounce)
Whole wheat	1 slice (1 ounce)

Cereal

Bulgur (cooked)	½ cup
Bran cereals, concentrated	¼ cup
Bran Flakes	½ cup
Grapenuts®	3 tbsp.
Other ready-to-eat unsweetened Cereal	¾ cup
Shredded Wheat®	½ cup
Puffed Cereal (unfrosted)	1½ cup
Cereal (cooked)	½ cup
Grits (cooked)	½ cup
Rice or Barley (cooked)	¼ cup
Pasta (cooked), Spaghetti, Noodles, Macaroni	½ cup
Cornmeal (dry)	2½ tbsp.
Flour	2½ tbsp.
Wheat Germ	3 tbsp.

Crackers/Snacks

Animal	8
Arrowroot	3
Graham, 2½" square	3
Matzoth, 4"x6"	¾ ounce
Melba Toast	5 slices

	as flank steak, tenderloin, round, sirloin, and chipped beef	
Pork:	Lean pork such as fresh ham; canned, cured or boiled ham. Canadian bacon, and tenderloin	1 ounce
Veal:	All cuts are lean except veal cutlets (ground or cubed), chops and roasts	1 ounce
Poultry:	Meat without skin of chicken, turkey, and cornish hen	1 ounce
Fish:	All fresh or frozen	1 ounce
	Water-packed canned tuna	2 ounces
	Crab, lobster clams, oysters, scallops, and shrimp (fresh or canned in water)	6 (1 ounce)
	Sardines, drained	2
	Herring, uncreamed or smoked	1 ounce
Wild Game:	Venison, Rabbit, Squirrel	1 ounce
	Pheasant, Duck, Goose (without skin)	1 ounce
Cheese:	Any cottage cheese	$\frac{1}{2}$ ounce
	Grated Parmesan	2 tbsp.
	Diet cheeses (less than 55 calories per ounce)	1 ounce
Other:	95% fat-free luncheon meat	1 ounce
	Egg whites	3 whites
	Egg substitutes with less than 55 calories per $\frac{1}{2}$ cup	$\frac{1}{2}$ cup

Medium-Fat Meat and Substitutes

List 2

This list shows the kinds and amounts of Medium-Fat Meat and other Protein-Rich Foods to use for one Medium-Fat Meat Exchange. Each exchange or medium-fat meat contains 7 grams of protein and 5 grams of fat or 75 calories.

Beef:	Most beef products fall into this category. Examples are: all ground beef, roast (rib, chuck, rump), steak (cubed, Porterhouse, T-Bone), skirt steak (fajitas), and meatloaf.	1 ounce
Pork:	Most pork products fall into this category. Examples are: chops, loin roast, Boston butt, cutlets.	1 ounce
Lamb:	Most lamb products fall into this category. Examples are: chops, leg and roast.	1 ounce

Peanut butter (contains unsaturated fatty acids)

1 tbsp.

Vegetable List

List 3

This list shows the kinds of vegetables to use for one Vegetable Exchange. One Exchange or serving is $\frac{1}{2}$ cup cooked vegetables or vegetable juice and 1 cup of raw vegetables. Each exchange contains 5 grams of carbohydrate, 2 grams of protein and 25 calories.

Artichoke ($\frac{1}{2}$ medium)	Greens:	Pea pods
Asparagus	Beets	Rhubarb
Bean Sprouts	Chards	Rutabaga
Beans (green, wax, Italian)	Collards	Sauerkraut
Beets	Dandelion	String beans, green or yellow
Broccoli	Kale	Summer squash
Brussels sprouts	Mustard	Tomato (1 large)
Cabbage, cooked	Spinach, cooked	Tomato juice
Carrots	Turnip	Turnips
Cauliflower	Kohlrabi	Water chestnuts
Eggplant	Leeks	Vegetable juice cocktail
Green pepper	Mushrooms	Zucchini, cooked
	Okra	
	Onions	

The following raw vegetables are considered free and may be used as desired:

Cabbage	Escarole	Radishes
Celery	Green onion	Romaine
Chicory	Hot peppers	Spinach
Chinese Cabbage	Mushrooms	Watercress
Cucumbers	Lettuce	Zucchini
Endive	Parsley	

Starchy Vegetables are found in the Starch/Bread Exchange List.

Fruit List

List 4

This list shows the kind and amounts of fruits to use for one Fruit Exchange. Each exchange contains 15 grams of carbohydrates and 60 calories.

Apple (raw)	1 small
Apple Juice	$\frac{1}{2}$ cup
Applesauce (unsweetened)	$\frac{1}{2}$ cup
Apricots, fresh	4 medium
Apricots, dried	7 halves
Banana	$\frac{1}{2}$ small
Berries (raw)	
Blackberries	$\frac{3}{4}$ cup
Blueberries	$\frac{3}{4}$ cup
Raspberries	1 cup

Buttermilk made from skim milk	1 cup
Yogurt made from skim milk (plain, unflavored)	1 cup (8 ounces)

Low-Fat Fortified Milk - Each serving of low fat milk contains 12 grams of carbohydrate, 8 grams of protein, 5 grams of fat and about 120 calories.

2% fat fortified milk (omit 1 Fat Exchange)	1 cup
Yogurt made from 2% fortified milk (plain, unflavored) (omit 1 Fat Exchange)	1 cup

Whole Milk (3½% butterfat) (omit 2 Fat Exchanges) - Each serving of whole milk contains 12 grams of carbohydrate, 8 grams of protein, 8 grams of fat and about 150 calories.

Whole milk	1 cup
Canned, evaporated whole milk	½ cup
Buttermilk made from whole milk	1 cup
Yogurt made from whole milk (plain, unflavored)	1 cup

Fat List

List 6

This list shows the kinds and amounts of Fat-Containing Foods to use for one Fat serving. To plan a diet low in Saturated Fatty Acids select only those fats which are unsaturated. One exchange contains 5 grams of fat and 45 calories.

Unsaturated fatty acids

Avocado (4" in diameter)	½ medium
Oils, corn, cottonseed, safflower, soy, sunflower	1 tsp.
Oils, olive, peanut and canola	1 tsp.
Olives	5 small
Margarine, soft, tub or stick (made with oils listed above)	1 tsp.
Margarine, diet	1 tbsp.
Mayonnaise	1 tsp.
Mayonnaise, reduced calorie	1 tbsp.
Nuts and seeds	
Almonds	6 whole
Pecans	2 large whole
Peanuts	
Spanish	20 whole
Virginia	10 whole
Walnuts	2 whole
Nuts, other	1 tbsp.
Pumpkin seeds	2 tsp.
Other seeds (pine nuts, sunflower without shells)	1 tbsp.
Salad dressing, mayonnaise type	2 tsp.

Condiments

Catsup (1 tbsp.)
Horseradish
Mustard
Pickles, dill unsweetened
Salad dressing, low-calorie
(2 tbsp.)
Taco sauce (1 tbsp.)
Vinegar

Seasonings can help make food taste better. Be aware of how much sodium you use. Read the label, and choose those seasonings that contain less or no sodium or salt.

Basil (fresh)	Lemon juice
Celery seeds	Lemon pepper
Cinnamon	Lime
Chili powder	Lime juice
Chives	Mint
Curry	Onion powder
Dill	Oregano
Flavoring extracts (vanilla, almond, walnut, peppermint, butter, lemon, etc.)	Paprika
Garlic	Pepper
Garlic powder	Pimento
Herbs	Spices
Hot pepper sauce	Soy Sauce, low sodium (Lite®)
Lemon	Wine, used in cooking (¼ cup)
	Worcestershire® sauce

Foods for Occasional Use

Moderate amounts of some foods can be used in your meal plan, in spite of their sugar or fat content, as long as you can maintain blood-glucose control. The following list includes average food values for some of these foods. Because they are concentrated sources of carbohydrate, portion sizes are very small. Check with your dietitian for advice on how often and when you can eat them.

Angel food cake	1/12 cake	2 starch/bread
Cake, no icing	1/12 cake, or a 3" square	2 starch/bread, 2 fat
Cookies	2 small (1½" across)	1 starch/bread, 1 fat
Frozen fruit yogurt	1/3 cup	1 starch/bread
Gingersnaps	3	1 starch/bread
Granola	¼ cup	1 starch/bread, 1 fat
Granola bars	1 small	1 starch/bread, 1 fat
Ice cream, any flavor	½ cup	1 starch/bread, 2 fat
Ice milk, any flavor	½ cup	1 starch/bread, 1 fat
Sherbet, any flavor	¼ cup	1 starch/bread
Snack chips, all varieties	1 ounce	1 starch/bread, 2 fat
Vanilla wafers	6 small	1 starch/bread, 1 fat

Spaghetti and meatballs (canned)	1 cup (8 oz.)	2 starch/bread, 1 medium- fat meat, 1 fat
--	---------------	--

Sugar-free pudding (made with skim milk)	$\frac{1}{2}$ cup	1 starch/bread
---	-------------------	----------------

If beans are used as a meat substitute:

Dried beans, peas, lentils	1 cup (cooked)	2 starch/bread, 1 lean meat
-------------------------------	----------------	--------------------------------

Adapted from Diabetes, Food and You, Indiana Cooperative Extension Service by Mary Kinney Sweeten, Ph.D., R.D., L.D., Extension Nutrition Specialist, The Texas A&M University System, August, 1990.

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.

MY MEAL PLAN

Lesson II

Meal Plan for: _____ Date: _____

Carbohydrate 224 Grams Percent 59%

Protein 100 Grams Percent 26%

Fat 55 Grams Percent 15%

Dietitian: _____ Phone: _____

Calories 1800

Time	Meal Plan	Menu Ideas	Menu Ideas
7:00 a.m.	3 Starch 1 Meat --- Vegetable 1 Fruit 1 Milk 1 Fat	¼ cup Wheat Flakes, 2 slices Toast 1 egg, poached -- ½ cup orange juice or 1/2 small banana 1 cup ½% milk 1 tsp. margarine	
10:00 a.m.	_____ _____ _____	---	
12:00 p.m.	2 Starch 3 Meat 2 Vegetable 1 Fruit --- Milk 2 Fat	1 cup vegetable soup, 1 slice wheat bread 3 oz. sliced chicken 1 lettuce/tomato salad, ½ cup cooked zucchini 1 cup raw raspberries -- 1 Tbsp. whipped cream, 1 tsp. margarine	
3:00 p.m.	_____ _____ _____	---	
6:00 p.m.	2 Starch 2 Meat 2 Vegetable 1 Fruit 1 Milk 1 Fat	1 hot biscuit*, ¼ cup steamed rice 2 oz. broiled fish 1 cup cooked green beans ¼ cup mandarin oranges 1 cup ½% milk *fat included in biscuit	
9:00 p.m.	1 Meat 2 Starch 1 Fat	1 oz. part skim milk cheese 2 6-inch tortillas (cheese melted) taco sauce (free) 1 tsp. oil (to fry tortillas)	

**PRACTICAL TIPS TO IMPROVE NUTRITION AND EATING HABITS FOR DIABETICS****Lesson II****Breads, Cereals,
Pasta**

- "Natural cereals such as Granola may contain coconut oil or palm oil
- Whole grain breads and cereals are higher in fiber
- Choose tomato or clam sauce, pesto or other oil-based sauces for pasta instead of cream or cheese sauces
- Choose low-fat crackers, plain popcorn, fruit, etc. as snacks instead of chips, butter crackers, cookies, etc.

Meats

- Reduce portion sizes to 3-4 ounces (size of a deck of playing cards)
- Look for meat and meat products that have no more than 5 percent fat content
- Remove trim from meat and skin from poultry before cooking
- Bake, broil, boil or braise meats instead of fry
- Fry only with cooking oil spray if frying can't be avoided
- Use meat as a condiment instead of an entree

Vegetables

- Choose plain vegetables instead of those prepared with cheese sauce, cream sauce or butter sauce
- Raw vegetables are high in fiber

Fruits

- Raw fruits are high in fiber
- Fruits canned in syrup and dried fruits are high in calories
- Buy canned fruits packed in water

For more information

Call us at 1-800-ADA-DISC for your *free* publications catalog. Also ask about ADA's *free* quarterly newsletter for people with diabetes.

Nutrition and Diabetes

es Rights and Responsibilities Ri
ms Health-care Systems Health-
es Community Resources Commu
eneral Facts General Facts Gener
oping Coping Coping Coping Cop
amily Family Family Family Fami
utrition Nutrition Nutrition Nutrit
ercise Exercise Exercise Exerci
edications Medications Medicati
Balance: Food, Exercise, Medicine
esting Testing Testing Testing Te
mia Hyperglycemia/Hypoglycemia
iness Illness Illness Illness Ilne
omplications Complications Com
ersonal Habits Personal Habits P
ies Rights and Responsibilities R
tems Health-care Systems Health
es Community Resources Comm
eneral Facts General Facts Gener
oping Coping Coping Coping Cop
y Family Family Family Family F

American Diabetes Association,
 Diabetes Information Service Center
 1660 Duke Street
 Alexandria, VA 22314
 Tel: 800-ADA-DISC
 (In VA, Washington, D.C., Metro area, 703-549-1500)

Copyright © 1989 by the American Diabetes Association, Inc.



10/89 100M



La nutrición y la diabetes

Derechos y Deberes Derechos y
Sistemas de Cuidado de la Salud
Recursos Comunitarios Recursos
Datos Generales Datos Generales
Cómo Arreglárselas Cómo Arregl
La Familia La Familia La Familia
La Nutrición La Nutrición La Nutr
Ejercicios Ejercicios Ejercicios Ej
Medicamentos Medicamentos Me
Equilibrar Alimentos, Ejercicios,
Medicamentos Equilibrar Aliment
Análisis Análisis Análisis Análisis
Hiperglicemia/Hipoglicemia Hiper
Enfermedades Enfermedades Enf
Complicaciones Complicaciones
Hábitos Personales Hábitos Perso
Derechos y Deberes Derechos y
Sistemas de Cuidado de la Salud
Recursos Comunitarios Recursos
La Familia La Familia La Familia

American Diabetes Association,
 Diabetes Information Service Center
 1650 Duke Street
 Alexandria, VA 22314
 Tel: 800-ADA-DISC
 (in VA, Washington, D.C., Metro area, 703-549-1500)

Copyright © 1989 by the American Diabetes Association, Inc.



11/89-30M

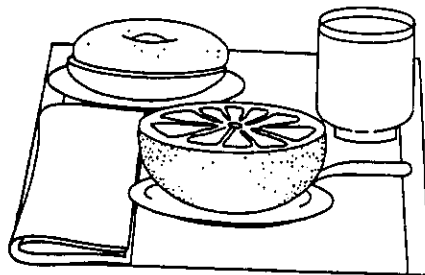
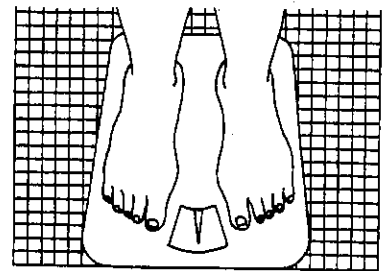


NUTRITIONAL GOALS FOR DIABETES

1. Maintain Normal Blood Sugar

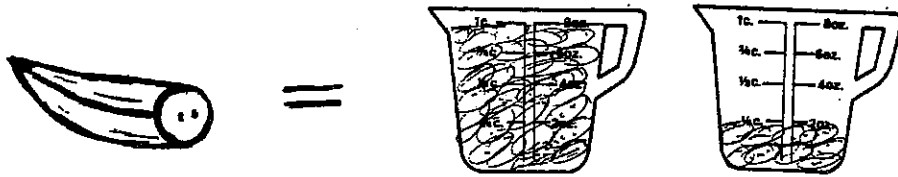
2. Attain and Maintain Normal
Weight

3. Meet Nutritional Needs



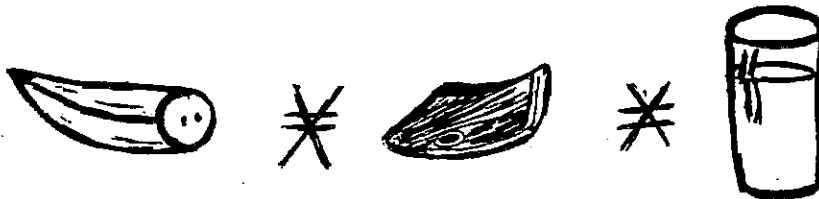
SUBSTITUTE ONLY WITHIN
EACH DIABETIC EXCHANGE
LIST

WITHIN THE FRUIT LIST
*EXCHANGE 1 FRUIT FOR ANOTHER
FRUIT

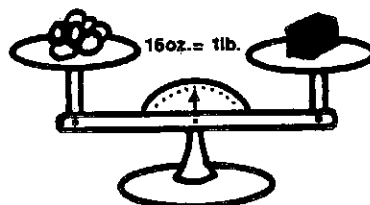


1/2 BANANA = 1 1/4 CUPS STRAWBERRIES

*DO NOT SUBSTITUTE 1 FRUIT
EXCHANGE FOR 1 MEAT EXCHANGE OR
WITH ANY OTHER EXCHANGE UNLESS
DIETITIAN APPROVES THE CHANGE



1/2 BANANA = 1 MEAT OR 1 MILK EXCHANGE



ARE ALL FOODS CREATED
EQUALLY?

CARBOHYDRATES 4 CALORIES/GRAM

PROTEIN 4 CALORIES/GRAM

FAT 9 CALORIES/GRAM

ALCOHOL 7 CALORIES/GRAM

HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Teacher's Guide

LESSON III

BECOMING FAMILIAR WITH DIABETIC EXCHANGES FOR MEAL PLANNING

This lesson's objectives are for the participants to:

- use the food exchange lists following the diabetic meal pattern for his/her diet prescription; and
- eat meals at regular intervals to regulate blood sugar levels; and
- plan nutritious menus for diabetics

MATERIALS NEEDED FOR LESSON III

Newsprint, markers

For Poster of Meal Pattern Preparation (optional)

- Several pictures from magazines, brochures demonstrating several choices from the six exchange lists
- Poster board
- Glue
- Marking pencils (colored)

Handout: Lesson II Homework Sheets - Developing a Day's Menu

Handout: Recommended Diabetic cookbooks

Visual: The Diabetic Diet

Visual: Exchanges

Visual: Your Meal Plan in Exchanges

Visual: Sample Menus

Video cassette VHS 340 "Exchanges Lists for Meal Planning" (order from Agricultural Communications)

The second menu idea for the Lesson II Homework Sheet "My Menu Plan"

Supermarket ads from local newspapers

- (1) calories are provided in an amount that maintains a desirable weight;
- (2) the saturated fatty acids and cholesterol content are within acceptable amounts;
- (3) salt (specifically sodium) intake is not excessive; and
- (4) fiber intake is adequate. (Visual 1)

The diabetic diet is planned to be nutritionally balanced with foods grouped by nutrients and calories which are adjusted to help diabetics achieve and maintain normal weight plus good control.

You need not learn specific nutrient needs for each member of your family to provide them with a good diet. Everything you eat can be divided into six basic groups according to the Exchange Lists guidelines (Have participants tell you these six exchange lists as you write names on newsprint):

- (1) Starch/Bread;
- (2) Meat (Low Fat, Medium Fat, and High Fat);
- (3) Vegetable;
- (4) Fruit;
- (5) Milk; and
- (6) Fat;

or four basic food groups if you are following the Basic Four guidelines:

- (1) Milk and Milk Products;
- (2) Breads and Cereals;
- (3) Fruits and Vegetables; and
- (4) Meats.

All of the nutrients your body needs can be provided if you eat a variety of foods from each category of either of these lists everyday. This means that you can think of meeting your family's nutritional needs in terms of real food instead of in terms of individual nutrients in specified amounts.

(Visual 2) Let's take a closer look at the nutrient contributions of each of the six groups. (Review the Exchanges by groups. Point out that each food contains different amounts of carbohydrates (CHO), protein (PRO), and Fat. Ask which groups contribute CHO? (Starch/Bread, Vegetable and Fruit) Both vegetable and starch/bread also have a small amount of protein whereas fruit contains essentially none. Milk has CHO, PRO and varying amounts of Fat. Meat has protein and varying amounts of fat. Discuss three types of meat and how the fat varies as does the calories. Fat list is essentially all fat.

In fact, when your dietitian developed your diabetic meal plan (Exchange Lists or Healthy Food Choice Plan--a copy of posters in English/Spanish are available on the ADA publication list), he/she most likely compared it to a guide such as the USDA Basic Food

- Know what foods are in season and plentiful. They could be planned into your meals. What are some seasonal foods that you would put in your menus now?
- Know current prices so you can recognize sales in the newspaper, circulars, and on T.V. Have a newspaper with some food prices from different supermarkets and discuss with group.
- Plan your meals for at least one week at a time. Remember to include snack foods and beverages. Count the number of meals to prepare and the number of people who will be present at each of those meals.
- Decide which day of the week the menu plan will begin. The day after the weekly shopping trip may be the logical starting place.
- Know how much money is available to spend on food. Low-cost meals can be just as nutritious, good tasting, and attractive as high-cost meals.
- Plan meals according to cooking ability. A simple dish or meal correctly prepared can be as nutritious, and look and taste as good as a complicated or gourmet meal.
- Plan meals based on time available for preparation. Convenience and quick cooking meals take little time to prepare, but tend to be more expensive.
- Consider the family's food preferences.
- Strive for a pleasing balance and variety of colors, sizes, shapes, flavors, textures, and temperature of foods at each meal.
- Begin your meal planning by selecting your meat dish. Choose fruits, dairy products, and breads to compliment the main dish.

D. In summary, remember the four goals of meal planning:

- Meet the nutritional needs of each family member.
- Provide satisfying meals that will be eaten and enjoyed by all.
- Budget your food purchases.
- Consider the amount of time you have available for food shopping and preparation.

Have dietitian assist you in reviewing calorie content of the meal plan and the percentage of carbohydrate (CHO), protein (PRO) and fat. Then, have the diabetic observe the impact of the meal plan on blood sugar (glucose) control. If blood glucose is improved or not and if desirable weight is maintained/achieved or not. Tell them to make a report during the next meeting.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

DEVELOPING A DAY'S MENU NEW EXCHANGES Lesson III

HANDOUT 1

DIRECTIONS: Copy your meal pattern from the form completed by the dietitian before you leave today (in the first column).

Use your Food Exchange Lists and write out the foods you would select for one day. Bring this paper with you to Lesson IV. Be sure to indicate the amounts (cups, oz., teaspoons) of each food in front of the name of the food.

MEAL PATTERNS

FOODS FOR ONE DAY

Breakfast

BREAKFAST Time: _____

	Amount	Food
_____ Starch/Bread Exchanges	_____	_____
_____ Meat & Substitutes Exchanges	_____	_____
_____ Fruit Exchanges	_____	_____
_____ Milk Exchanges	_____	_____
_____ Fat Exchanges	_____	_____

Lunch or Supper

LUNCH OR SUPPER Time: _____

_____ Starch/Bread Exchanges	_____	_____
_____ Meat & Substitutes Exchanges	_____	_____
_____ Vegetable Exchanges	_____	_____
_____ Fruit Exchanges	_____	_____
_____ Milk Exchanges	_____	_____
_____ Fat Exchanges	_____	_____

Dinner

DINNER Time: _____

_____ Starch/Bread Exchanges	_____	_____
_____ Meat & Substitutes Exchanges	_____	_____
_____ Vegetable Exchanges	_____	_____
_____ Fruit Exchanges	_____	_____
_____ Milk Exchanges	_____	_____
_____ Fat Exchanges	_____	_____

Snack

SNACK Time: _____

_____	_____	_____
_____	_____	_____

Revised by Mary Kinney Sweeten, Ph.D., R.D. L.D., Extension Nutrition Specialist, The Texas A&M University System, 1990

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.



THE DIABETIC DIET

- *Nutritionally balanced**
- *Foods grouped by nutrients and calories**
- *Calories adjusted to achieve and maintain normal weight**
- *Good control**

EXCHANGES/				
FOOD GROUPS	CHO	PRO	FAT	CAL
STARCH/BREAD	15	3	TRACE	80
MEAT				
*LEAN	0	7	3	55
*MEDIUM-FAT	0	7	5	75
*HIGH-FAT	0	7	8	100
VEGETABLE	5	2	0	25
FRUIT	15	0	0	60
FAT	0	0	5	45
MILK				
WHOLE	12	8	8	150
LOWFAT--2%	12	8	5	120
SKIM--1/2%	12	8	TRACE	90

YOUR MEAL PLAN IN EXCHANGES

Meal Plan For _____
 Carbohydrate _____ Protein _____ Fat _____ Calories _____
gms gms gms

EXCHANGES/FOOD GROUPS

Meals	1	2	3	4	5	6
--------------	---	---	---	---	---	---

Starch Meat Vegetable Fruit Milk Fat

Breakfast _____

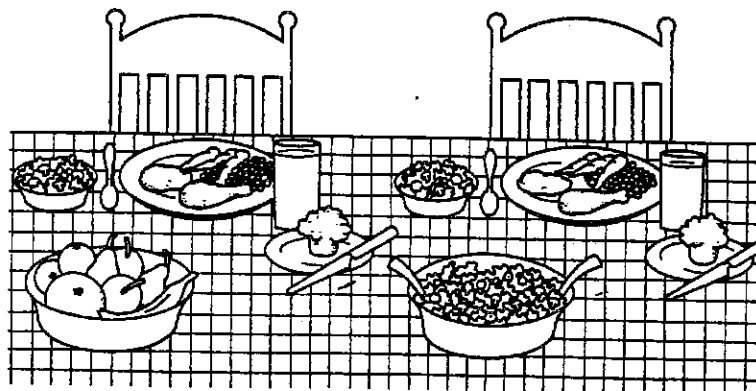
**Morning
Snack** _____

**Lunch/
Dinner** _____

**Afternoon
Snack** _____

**Dinner/
Supper** _____

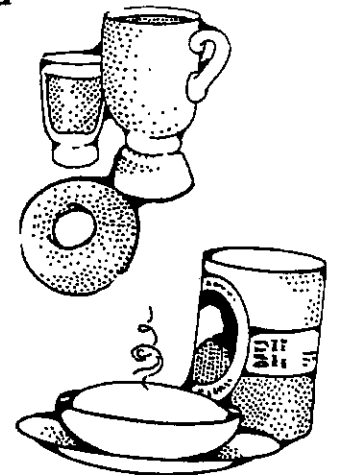
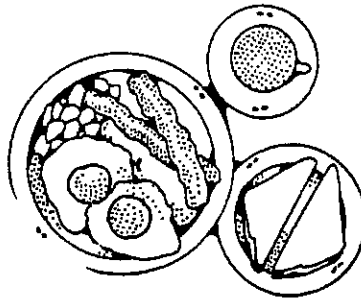
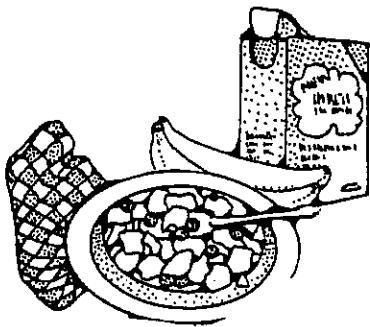
**Bedtime
Snack** _____



EXCHANGES SAMPLE MENU 1 MENU 2

Breakfast

- | | | |
|----------------|--|----------------------|
| 1 meat | 1 egg, poached | 1 lean sausage |
| 3 starch/bread | 3/4 c. oat squares | 1 bagel |
| | 2 slices wheat toast | 1/2 cup grits |
| 1 fat | 1 tsp. margarine | 1 Tbsp. cream cheese |
| 1 milk, 1/2% | 1 cup milk, 1/2% | 8 oz. yogurt |
| 2 fruits | 1 whole banana | 1/2 banana |
| | | 12 cherries |
| free foods | coffee, artificial sweetener or sugar-free jelly, if desired | |



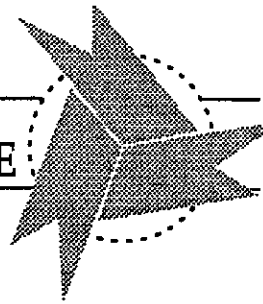
lean
sausage
bagel
qu
cream cheese
yogurt



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Teacher's Guide

LESSON IV



INTERPRETING NUTRITIONAL LABELS FOR DIABETICS

This lesson's objectives are for the participants to:

- convert nutritional labeling to diabetic meal patterns.
- use convenience foods in diabetic meal pattern by reading and interpreting nutritional labels.

MATERIALS NEEDED FOR LESSON IV

Newsprint, markers

Handout: Making Nutritional Labeling Work for You

Handout: Estimating Exchanges from Nutritional Labels

Handout: Convenience Food Exchange Lists

Handout: How to Convert Nutrition Labeling on Potato Soup to Diabetic Exchange

Nutrition Label(s) to calculate food exchange values

Food Packages: butter, fried egg, apple, can of sardines, Reece's® Peanut Butter Cups, Pork 'n Beans, peas, whole milk, Big Mac®, and hot dogs and packets of sauces, dressings from sandwich shops.

Variety of bread labels

Pop Corn (popped, unsalted)

Spices: Garlic powder, onion powder, cinnamon, Butter Buds®

Food labels from favorite foods

II. Discussion

A. Hidden Sugar in Products

Like fat, sodium and fiber, sugar has many disguises that the diabetic needs to recognize.

On a label it is not always identified by the word "sugar." These are some common names for sugar and sweeteners. Ask participants to name some forms of sugar as you write on newsprint.

sucrose	glucose	high fructose corn syrup
fructose	dextrose	invert sugar
levulose	maltose	honey
lactose	corn syrup	dextrin
molasses	sorghum	brown sugar
maple syrup	sorbitol	mannitol

Ingredients are listed in descending order of amount by weight: the ingredient contained in the largest amount is listed first, followed by the second most abundant, and so on down the list. If sugar is listed as the first, second, or third ingredient, you should think carefully about using the product. You should consult your dietitian to see if its use is appropriate. If sugar is listed as the fourth, fifth, or sixth ingredient, it is probably present in such a small amount that it doesn't matter and the product is O.K. for you to use.

Say: Five of you were given ingredient labels to determine if they could be used by diabetics. Is there a sugar source in the label? If so, remember the rule of thumb that if sugar is listed fourth or above, then it is probably usable by the diabetic.

People with diabetes have always had to be conscious of what they eat, but now just about everyone is interested in nutrition. People are either trying to cut calories or reduce their salt, cholesterol, or sugar intake. In response to the increased demand for low-calorie, reduced fat, sugar, and salt foods, major food manufacturers have entered the diet market. However, being labeled dietetic doesn't make a food a suitable product for the person with diabetes.

B. What a Label Tells You

The dietitian may be the best qualified to calculate the values given on food labels into food exchanges.

1. Nutrition Information

Most label terms have fixed definitions that have been determined by the Food and Drug Administration.

All labels must tell you the:

- brand name
- product name
- manufacturer's address
- amount of food in the package or net weight

The following information may also be included on the label but is not required:

- twelve other vitamins and minerals and their percentage of the USRDA per serving.
- fat composition, amount of cholesterol, and the amount of sodium per serving.

D. Examples of Calculating Exchanges Using Labels

Refer to the "Estimating Exchanges from Nutritional Labels" Handout I for the Food Combination Example. The part of the label most useful to the diabetic is the part which lists servings, calories, carbohydrate, protein, and fat. By comparing this information with the exchange lists used in the diet, a diabetic can estimate how many exchanges are in a serving of the food and how it can be used in the meal plan.

Go over example on newsprint.

Convert Nutrition Information to Exchanges

The nutrition label from a container of macaroni and cheese:

1. Check the label for the information you will need to convert to the Exchange system.

Serving Size 3/4 cup
Calories 240
Protein (grams) 10
Carbohydrate (grams) . . 32
Fat (grams) 7

2. Write down the name of the product, the serving size, the manufacturer and the grams of carbohydrate, protein, and fat per serving.
3. Now, write on newsprint. You may want to discuss the calories per gram for carbohydrate, protein and fat--4, 4 and 9 respectively. Briefly review the way you determine the calories for 32 grams carbohydrate, you would multiply by 4 ($4 \times 32 = 128$), for protein multiply 10 grams by 4 ($10 \times 4 = 40$) and 7 grams fat by 9 ($7 \times 9 = 63$). Add the three for the approximate total number of calories ($128 + 40 + 63 = 231$).

Macaroni & Cheese	CHO	PRO	FAT	Calories
Serving Size 3/4 cup	(gms)	(gms)	(gms)	
Nutrient Content of a Single Serving	32	10	7	240

In order to understand how to use the information on a label, you must first understand the basis for grouping foods into Exchange Lists.

6. Next, convert the grams of protein to meat exchanges. It is easier if you use the medium fat meat exchange values. In this case, 3.5 grams of protein is closest to one-half meat exchange. The remaining .5 grams of protein should be dropped.

		Carbohydrate (gm)	Protein (gm)	Fat (gm)
Nutrient Content of a Single Serving ($\frac{1}{4}$ cup)		32.0	10.0	7.0
Label Information Converted to Exchanges				
Starch/Bread	<u>2</u>	(-) <u>30.0</u> 2.0	(-) <u>6.0</u> 4.0	(-) <u>0.0</u> 7.0
Medium-Fat Meat	<u>$\frac{1}{2}$</u>		(-) <u>3.5</u> (-)0.5	(-) <u>2.5</u> 4.5

7. Convert the remaining grams of fat to fat exchanges.

		Carbohydrate (gm)	Protein (gm)	Fat (gm)
Nutrient Content of a Single Serving ($\frac{1}{4}$ cup)		32.0	10.0	7.0
Label Information Converted to Exchanges				
Starch/Bread	<u>2</u>	(-) <u>30.0</u> 2.0	(-) <u>6.0</u> 4.0	(-) <u>0.0</u> 7.0
Medium-Fat Meat	<u>$\frac{1}{2}$</u>		(-) <u>3.5</u> (-)0.5	(-) <u>2.5</u> 4.5
Fat	<u>1</u>			(-) <u>5.0</u> (-)0.5

If you eat $\frac{1}{4}$ cup of macaroni and cheese, you will use the following Exchanges:

- 2 Starch/Bread
- $\frac{1}{2}$ Medium-Fat Meat
- 1 Fat

Point out that foods grouped in an exchange list provide only approximately the same calories and nutrients as other foods in that same list. Also, remember the nutrients listed on the label must be for the company's product. Therefore, the values listed on the label

INGREDIENT LABELS

PORK 'N BEANS

Prepared beans, water, tomatoes, sugar, pork, salt, distilled vinegar, flavoring, spice

BEEF STEW

Potatoes, water, beef, carrots, wheat flour, dried lima beans, peas, tomatoes, beef suet, salt, celery, sugar, monosodium glutamate, caramel coloring, dehydrated onions, spices, flavorings, paprika

TOMATO KETCHUP

Tomatoes, natural sweetener, distilled vinegar, salt, onions, and spices

HOT COCOA MIX

Sugar, non-fat milk solids, cocoa processed with Alkali (Dutch processed), whey, solids, salt, artificial flavor

PEANUT BUTTER

Choice roasted peanuts with sugar, hardened vegetable oil, molasses, mono- and diglycerides

BACON

Cured with water, salt, sugar, sodium phosphate, sodium ascorbate (vitamin C) sodium nitrate.

NOTE: Prior to the lesson, cut these ingredient labels into strips and provide five participants with a label.

Revised by Mary Kinney Sweeten, Ph.D., R.D. L.D., Extension Nutrition Specialist, The Texas A&M University System, 1990.
Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



ESTIMATING EXCHANGES FROM NUTRITIONAL LABELS

HANDOUT 1

Lesson IV

When determining the number and kinds of exchanges in a convenience food, you need to consider the product. You want to estimate exchanges to reflect the ingredients contained in the product. Try to avoid using exchanges for foods that the product does not contain.

For example, in macaroni and cheddar cheese, it could be assumed that there is no fruit in the product. Thus, you would avoid using a fruit exchange.

The table below will be helpful in calculating the carbohydrate, protein, and fat values for the exchanges you estimate. The gram is used to measure amounts of carbohydrate, protein and fat. It takes about 30 grams to make one ounce.

Exchange	Carbohydrate (grams)	Protein (grams)	Fat (grams)
Starch/Bread	15	2	0
Meat			
Lean	0	7	3
Medium-Fat	0	7	5
High-Fat	0	7	8
Vegetable	5	2	0
Fruit	15	0	0
Milk, skim	12	8	0
Fat	0	0	5

Example with Instructions: Macaroni & Cheese Convenience Package

Nutrition Label from Macaroni & Cheese

Nutrition Information, per serving	
Serving Size	3/4 cup
Servings per container	5
Calories	240
Protein	10 g
Carbohydrate	32 g
Fat	7 g

1. Estimate the number of exchanges from one exchange list. We assume this product has macaroni. Macaroni is found under the Starch/Bread Exchange List. The food label states that in one serving of macaroni and cheese there are 32 grams of carbohydrate, 10 grams of protein, and 7 grams of fat. Since one Starch/Bread Exchange has 15 grams carbohydrate, it can be estimated that there are about 2 Starch/Bread Exchanges in the product.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

MAKING NUTRITIONAL LABELING WORK FOR YOU

HANDOUT 2

Lesson IV

Many food products now carry nutritional labels on their packages. This nutrition information makes it possible for diabetics and weight conscious persons to include many more foods in their diets, using the method described below. If you have questions about using this method to determine food exchanges or about the Diabetic Exchange Lists, be sure to consult a dietitian or physician.

Any company that uses nutritional labeling must follow the format set out by the U.S. Food and Drug Administration. Only the top part of the label is needed to work out the exchanges. An example is shown below.

One 10" Cheese Pizza	
Nutritional Information Per Serving	
Serving Size	1/2 pizza
Servings per container	2
Calories per serving	438
Protein	22 g
Carbohydrates	52 g
Fat	16 g

How to Work Out Food Exchanges Using Nutrition Information Labels

You will need this exchange (substitution) list for reference:

Exchange	Carbohydrate (grams)	Protein (grams)	Fat (grams)	Calories
1 Starch/Bread exchange	15	3	trace	80
1 Meat exchange, lean	--	7	3	55
medium-fat	--	7	5	75
high-fat	--	7	8	100
1 Vegetable exchange	5	2	--	25
1 Fruit exchange	10	--	--	60
1 Milk (non-fat) exchange	12	8	trace	90
1 Fat exchange	--	--	5	45

Use the following steps to determine the number of exchanges in one serving of the food. The pizza label above is used as an example.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

MAKING NUTRITIONAL LABELING WORK FOR YOU

HANDOUT 2

Lesson IV

Many food products now carry nutritional labels on their packages. This nutrition information makes it possible for diabetics and weight conscious persons to include many more foods in their diets, using the method described below. If you have questions about using this method to determine food exchanges or about the Diabetic Exchange Lists, be sure to consult a dietitian or physician.

Any company that uses nutritional labeling must follow the format set out by the U.S. Food and Drug Administration. Only the top part of the label is needed to work out the exchanges. An example is shown below.

One 10" Cheese Pizza	
Nutritional Information Per Serving	
Serving Size	1/2 pizza
Servings per container	2
Calories per serving	438
Protein	22 g
Carbohydrates	52 g
Fat	16 g

How to Work Out Food Exchanges Using Nutrition Information Labels

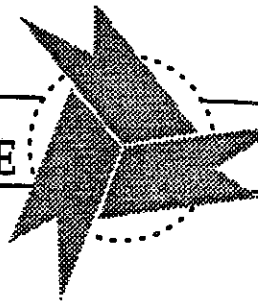
You will need this exchange (substitution) list for reference:

Exchange	Carbohydrate (grams)	Protein (grams)	Fat (grams)	Calories
1 Starch/Bread exchange	15	3	trace	80
1 Meat exchange, lean	--	7	3	55
medium-fat	--	7	5	75
high-fat	--	7	8	100
1 Vegetable exchange	5	2	--	25
1 Fruit exchange	15	--	--	60
1 Milk (non-fat) exchange	12	8	trace	90
1 Fat exchange	--	--	5	45

Use the following steps to determine the number of exchanges in one serving of the food. The pizza label above is used as an example.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



CONVENIENCE FOOD EXCHANGE LISTS

HANDOUT 3

Lesson IV

SOUPS

<u>Soups</u>	<u>Measure*</u>	<u>Exchange(s)</u>	<u>Brand</u>
Asparagus, Cream of	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Campbell Soup®
Black Bean	$\frac{1}{2}$ cup	1 Starch/bread	Campbell Soup
Bean with Smoked Pork	$\frac{1}{2}$ cup	1 $\frac{1}{2}$ Starch/bread 1 Meat	Heinz®
Beef Noodle	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Meat	Campbell Soup
Beef Noodle	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Heinz
Beef-Vegetable Barley	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Meat	Heinz
Celery, Cream of	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread 1 Fat	Heinz and Campbell Soup
Chicken Gumbo	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Heinz and Campbell Soup
Chicken Noodle	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Heinz and Campbell Soup
Chicken Rice	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Heinz
Chicken Vegetable	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Heinz and Campbell Soup
Chicken, Cream of	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread 1 Fat	Heinz and Campbell Soup
Chicken and Stars	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Campbell
Chili Beef	$\frac{1}{2}$ cup	1 Starch/bread 1 Meat $\frac{1}{2}$ Fat	Heinz
Chili Beef	$\frac{1}{2}$ cup	1 $\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Meat	Campbell Soup
Clam Chowder, Manhattan Style	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread $\frac{1}{2}$ Fat	Heinz and Campbell Soup
Minestrone	$\frac{1}{2}$ cup	1 Starch/bread $\frac{1}{2}$ Fat	Heinz
Minestrone	$\frac{1}{2}$ cup	$\frac{1}{2}$ Starch/bread 1 Fat	Campbell Soup

IV-1

FROZEN SOUPS

<u>Soups (Continued)</u>	<u>Measure*</u>	<u>Exchange(s)</u>	<u>Brand</u>
Clam Chowder, New England	½ cup	½ Starch/bread 1 Fat	Campbell Soup*
Green Pea with Ham	½ cup	1 Starch/bread ½ Fat	Campbell Soup
Oyster Stew	½ cup	½ Starch/bread 1 Fat	Campbell Soup
Potato, Cream of	½ cup	½ Starch/bread 1 Fat	Campbell Soup
Shrimp, Cream of	½ cup	½ Starch/bread 2 Fat	Campbell Soup
Vegetable with Beef Old Fashioned	½ cup	½ Meat ½ Starch/bread	Campbell Soup

The following soups may be used in UNLIMITED AMOUNTS.

Bouillon

Consomme

Clear Broth

*Means ½ cup undiluted as it is taken from the can. You may add ½ cup of water to dilute the concentrate, or if desired, ½ cup milk may be used for dilution from the Milk Exchanges allowed.

MIXED DISHES

<u>Food</u>	<u>Measure*</u>	<u>Exchanges</u>	<u>Brand</u>
Spaghetti Sauce w/Meat	4 oz. (1/2 can)	1 Starch/bread ½ Meat 1 Fat	<u>Chef Boy-Ar-Dee*</u>
Spaghetti Sauce w/Mushrooms	4 oz. (1/2 can)	1 Starch/bread ½ Meat 1 Fat	
Pizza Sauce	2 oz. (1/4 can)	1 Fat	
Mushrooms in Brown Gravy	5 oz. (1/2 can)	½ Starch/bread 1 vegetable 1 Fat	
Beefaroni	5 oz. (1/3 can)	1 Starch/bread 1 Meat	
Cheese Ravioli	5 oz. (1/3 can)	1½ Starch/bread ½ Meat 1 Fat	
Chili Con Carne w/Beans	5 oz. (1/3 can)	1½ Starch/bread 1 Fat	
Marinara Sauce	4 oz. (1/2 cup)	1 Starch/bread	
Meat Balls w/Gravy	5 oz. (1/3 can)	½ Starch/bread 2 Meat 1 Fat	

MIXED DISHES (Continued)

<u>Food</u>	<u>Measure*</u>	<u>Exchange (s)</u>	<u>Brand</u>
Spanish Rice-A-Roni	1 cup	2½ Starch/bread 2 Fat	
Wild Rice-A-Roni	1 cup	3 Starch/bread 2 Fat	
Twist-A-Roni	1 cup	2½ Starch/bread 1 Fat	
Scallop-A-Roni	1 cup	2 Starch/bread 1 Meat	
Macaroni and Cheese	1 cup	1½ Starch/bread	<u>Campbell Soup</u> ®
Italian Style Spaghetti	1 cup	2 Starch/bread	
Spaghetti and Ground Beef	1 cup	1½ Starch/bread 1 Meat 1 Fat	
Spaghetti and Tomato Sauce	1 cup	2 Starch/bread	
Spaghetti and Meatballs	1 cup	1½ Starch/bread 1 Meat 1 Fat	
Spaghetti Sauce and Meat	1 cup	1 Starch/bread 1 Meat 1 Fat	
Spaghetti Sauce and Mushrooms	1 cup	1½ Starch/bread 2 Fat	
Barbecue Beans	1 cup	3 Starch/bread	
Beans and Franks	1 cup	2 Starch/bread 2 Meat 1 Fat	
Pork and Beans	1 cup	2½ Starch/bread	
Minute Spanish Rice	1/6 pkg. (1/2 cup)	½ Starch/bread 1 Fat	<u>Any Brand</u>
Italian Style Spaghetti (canned)	1/2 cup	1 Starch/bread	<u>Franco-American</u> ®
Macaroni w/Cheese Sauce (canned)	1/2 cup	1 Starch/bread 1 Fat	<u>Franco-American</u>
Macaroni and Cheese Sauce	1 cup	1½ Starch/bread 1 Fat 1 Meat	<u>Heinz</u>
Macaroni and Beef (canned)	1/2 cup	1 Starch/bread ½ Meat 1 Fat	<u>Franco-American</u>
Spaghetti w/Ground Beef (canned)	1/2 cup	1 Starch/bread ½ Meat 1 Fat	<u>Franco-American</u>
Spaghetti in Tomato Sauce (canned)	1/2 cup	1 Starch/bread	<u>Franco-American</u>
Spaghetti with Meatballs (canned)	1/2 cup	1 Starch/bread ½ Meat 1 Fat	<u>Franco-American</u>
Spaghetti Dinner (packaged)	1 cup	1½ Starch/bread	<u>Kraft</u>

POT PIES (continued)

<u>Food</u>	<u>Measure*</u>	<u>Exchange(s)</u>	<u>Brand</u>
Turkey Pot Pies	1 individual 4½" in dia. 8 oz. pies	2½ Starch/bread 1½ Meat 3 Fat	Swanson

TV BRAND DINNERS

These are the regular TV dinners, not the "Entree" TV dinners or the Three-Course Dinners.

Beans and Franks	1 package	1 Meat 4 Starch/bread 3 Fat	Swanson
Beef	1 package	2 Starch/bread 3 Meat	Swanson
Chopped Sirloin	1 package	2½ Starch/bread 3 Meat 1 Fat	Swanson
Corned Beef Hash	1 package	2 Starch/bread 2 Meat 1 Fat	Swanson
Fried Chicken	1 package	3 Starch/bread 4 Meat 2 Fat	Swanson
Fish 'n French Fries	1 package	3 Starch/bread 3 Meat 1 Fat	Swanson
Filet of Haddock	1 package	2½ Starch/bread 3 Meat	Swanson
Ham	1 package	3 Starch/bread 2 Meat	Swanson
Ham	1 package	1 Starch/bread 5 Meat (omit applesauce)	Morton
Turkey, Beef, Salisbury Steak, Meat Loaf and Fish	1 package	1½ Starch/bread 1 vegetable 5 Meat	Morton
Shrimp	1 package	1½ Starch/bread 1 vegetable 4 Meat 1 Fat	Morton
Macaroni and Cheese	1 package	3 Starch/bread 1 Meat 1 Fat	Swanson
Meat Loaf	1 package	3 Starch/bread 2 Meat 2 Fat	Swanson
Scallops	1 package	3 Starch/bread 2 Meat 1 Fat	Swanson

CRACKERS AND BREADS (continued)

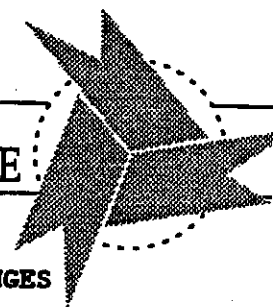
<u>Food</u>	<u>Measure*</u>	<u>Exchange(s)</u>	<u>Brand</u>
Barnum's® Animal Crackers	8 crackers	1 Starch/bread	National Biscuit Company
Bacon Thins	15 crackers	1 Starch/bread 2 Fat	Any Brand
Holland® Rusk	2 pieces	1 Starch/bread	Any Brand
Ritz	5 crackers	1 Starch/bread 1 Fat	Any Brand
Boston Brown Bread	1 slice	1 Starch/bread ($\frac{1}{2}$ " thick)	Any Brand
Raisin Bread (no icing)	1 slice	1 Starch/bread	Any Brand
Corn Muffin Mix	1 muffin	1 $\frac{1}{2}$ Starch/bread	Any Brand
French Toast	1 slice	1 Starch/bread $\frac{1}{2}$ Meat 1 Fat	Homemade
Cornstarch	2 Tbsp.	1 Starch/bread	Any Brand

POTATOES

<u>Food</u>	<u>Measure*</u>	<u>Exchanges</u>	<u>Brand</u>
Instant Mashed Potatoes (made according to package)	$\frac{1}{2}$ cup (3 $\frac{1}{2}$ oz.)	1 Starch/bread 1 Fat	Any Brand
Crinkle or Plain French-Fried Potatoes	8 pieces	1 Starch/bread 1 Fat	Any Brand
Hash Browned Potatoes	$\frac{1}{4}$ cup	1 Starch/bread 1 Fat	Any Brand
Frozen Onion Rings (Ready to use)	2 oz. ($\frac{1}{2}$ small pkg.) or $\frac{1}{8}$ lg. pkg.	1 Starch/bread 2 Fat	Any Brand

DESSERTS

Angel Food Cake		2 Starch/bread	
Cake, no icing		2 Starch/bread 2 Fat	
Ice Cream, any flavor	$\frac{1}{2}$ cup	2 Starch/bread 2 Fat	
Ice Milk, Vanilla	$\frac{1}{2}$ cup	1 Starch/bread 1 Fat	Any Brand
Sherbert, Various	$\frac{1}{4}$ cup	1 Starch/bread	Any Brand
Frozen Fruit Yogurt	$\frac{1}{4}$ cup	1 Starch/bread	Any Brand
Vanilla Wafers	6 small	1 Starch/bread 1 Fat	



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

HOW TO CONVERT NUTRITION LABELING ON POTATO SOUP TO DIABETIC EXCHANGES

HANDOUT 4

Lesson IV

Sample Label Cream of Potato Soup

Serving size: 1 cup (250 g)
 Calories.....160
 Protein.....7g
 Carbohydrate.....7g
 Fat.....7g
 Sodium.....1070mg
 Cholesterol.....23mg

1. List product name. 1. _____
2. Record serving size. 2. _____
3. Write down:
 - Calories/serving 3a. _____ cal.
 - Total grams of protein/serving b. _____ g.
 - Total grams of carbohydrate/serving c. _____ g.
 - Total grams of fat/serving d. _____ g.

Summary of Diabetic Exchanges

Exchange	Carbohydrate (grams)	Protein (grams)	Fat (grams)
Starch/Bread	15	2	0
Meat			
Lean	0	7	3
Medium-Fat	0	7	5
High-Fat	0	7	8
Vegetable	5	2	0
Fruit	15	0	0
Milk, skim	12	8	0
Fat	0	0	5

Summary of Exchanges for Potato Soup
Obtain information from lines 4, 6, 8.

Number of Exchanges	Exchange Groups
_____	Bread/Starch
_____	Lean Meat
_____	Medium-fat Meat
_____	High-fat Meat
_____	Vegetable
_____	Fruit
_____	Milk, skim
_____	Fat

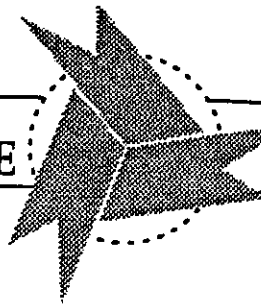
Adapted from "Living With Diabetes," Georgia Cooperative Extension Service by Mary Kinney Sweeten, Ph.D., L.D.
 R. D., Texas A&M University August, 1990

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Teacher's Guide



LESSON V

DIABETICS VIEW FOOD MEASURES, INGREDIENT LABELS, AND NON-NUTRITIVE SWEETENERS

This lesson's objectives are for the participants to:

- weigh foods accurately;
- recognize the amount of food in a number of frequently used food exchanges;
- read ingredient labels and use this information to purchase packaged foods;
- be aware that "dietetic" does not mean "diabetic"; and
- evaluate appropriate use of non-nutritive sweeteners.

MATERIALS NEEDED FOR LESSON V

Handout: General Guidelines for the Diabetic Diet

Handout: Measures and Weights

Handout: What Does the Label Tell You About Sugar Content of the Product?

Handout: Characteristics of Common Non-Nutritive Sweeteners

Equipment for incorrect meal tray activity: dinner plates, bowls, forks, spoons, napkins, transparent cups, food models or real food. The amount and type of equipment will depend on the pattern used for the meal.

Deck of cards

Sample meal patterns (to be used in correcting food trays)

1 Overhead Transparency or Poster, "Ingredient Labels"

Visual: Dietetic Foods

Equipment needed for Measuring and Weighing Activities

Since the diabetic must have standard measuring equipment for home use, the measuring equipment needed for this activity can be supplied by the diabetic in the class. Each diabetic should bring one set of dry measuring cups, one liquid measure, and one set of measuring spoons. This will ensure there is adequate measuring equipment even when the premises are lacking in facilities for washing.

The following equipment should be supplied by the instructors:

<u>Amount</u>	<u>Equipment Needed</u>
25	Plastic transparent cups
50	Paper plates
6	Grease pencils
1	Roll of masking tape
24	Plastic knives and spoons
1	Ruler
15	Plastic or paper bowls
	Paper towels
	Scales
	Plastic trash bags (for garbage, dirty dishes, etc.)
	Note cards for labeling

exchange list they are assigned to. Individuals in each group will then measure or weigh the amount of food to represent one exchange.

Meat needs to be weighed. After you are familiar with what the sizes of a 3-ounce serving is, then you can use a deck of cards to help you estimate a 3-ounce serving. Have individuals weigh the amount of meat in one exchange and then using the remaining meat weight the amount in two or three exchanges. (This may be done with other exchanges lists if desired.) Demonstration tables will be set up for all exchange lists. Two large tables could be used and divided into sections using masking tape as below, or six smaller tables could be used to eliminate confusion.

Table I			Exchange List	Table II		
1	2	3		1	2	3

Each group sets up a display of foods in the assigned exchange list. All foods need to be labeled with 3"x 5" cards as to what they are, the amount in one exchange, and the number of exchanges represented in the display.

When all foods have been measured and the demonstration tables are complete, have a representative from each group discuss the foods in his group. After each representative has spoken, allow the class time to view the foods on the demonstration table. In this way, they can learn to recognize the amount of food in one food exchange.

When the activity is over, dirty plates and foods not to be used again can be discarded. Wash and rinse any soiled equipment which will be reused. Equipment may be placed in paper bags for convenience in carrying.

IV. Ingredient Labels

Handout: What Does the Label Tell You About Sugar Content of the Product?

The teaching responsibilities for this section can be divided.

- A. **Ingredient Labels - Definition.** The Food, Drug, and Cosmetic Act requires all food labels to bear a statement of ingredients. The statement lists in order of decreasing predominance the common or usual name of each ingredient without divulging trade secrets. Special provisions are given for spices, flavorings, and colorings.

What this means is the largest amount of ingredients is listed first, the next largest second, and so on. Usually no percentages are given so amounts must be estimated. One ingredient which may be useful in this estimation is salt. If salt is listed, imagine the amount of salt that would be used in that food, usually it is small. Then any ingredient after the ingredient salt would be present in even smaller amounts.

FOOD	QUANTITY	EXCHANGES
Dietetic hard candy	not to exceed 20 calories	free
Dietetic maple syrup	1 Tbsp.	free
Weight Watchers® gravies, dips, dressings	½ cup	free
Dietetic jam, jelly, preserves	1 tsp.	free
Dietetic salad dressings	not to exceed 20 calories	free
Gelatin, artificially sweetened	½ cup per meal	free
Sugar-free gum		free

If a dietetic product states that it is suitable for use in a diabetic diet, it must have this statement on the label:

"Diabetics: This product may be useful in
your diet on the advice of a physician."

When shopping the diabetic can purchase all the foods he needs at a regular grocery store. As mentioned in the handout entitled "General Guidelines", all canned and frozen vegetables which have no added fat usually may be used in the diabetic meal plan. However, avoid vegetables canned and frozen in special sauces. Frozen unsweetened fruits are acceptable. Canned fruits must be water-packed or packed in their natural juices. If using canned fruit remember if the juice is consumed it must be counted as another fruit exchange. All fresh fruits and vegetables are acceptable. Discuss the idea that "dietetic" does not mean "diabetic". When the word "dietetic" is used a diabetic may automatically think it is low in calories or sugarless, but this is not necessarily true. Dietetic candies, cookies, ice cream, puddings, etc. are not recommended for general use. They are not free foods and their calories must be counted.

Can diabetics use the dietetic foods which contain fructose, xylitol, sorbitol, mannitol? These nutritive sweeteners cause plasma glucose levels to rise moderately. For example, fructose (fruit sugar) must be converted by liver to glucose which takes considerable time. Sucrose or table sugar which is half glucose, releases glucose immediately into the blood stream. Thus fructose has a more gradual release. More research is indicated before the use of these other nutritive sweeteners is recommended or rejected for diabetics. It is still better for a diabetic to occasionally eat ½ cup ice cream rather than dietetic ice cream, making the necessary exchanges with the food groups (1 bread, 2 fats).

Discuss the information available on ingredient and nutritional labels of dietetic products. Compare dietetic products with regular products. Some dietetic products contains a form of carbohydrate (such as a sugar alcohol, i.e. sorbitol, mannitol) which is more slowly absorbed than sugar but is still metabolized as a carbohydrate and thus provides calories. If a diabetic wants to use a product such as dietetic cookies information on carbohydrate content so the amount of the product equivalent to a bread or fruit exchange can be calculated.

upon metabolism need further study to establish whether their use as part of diabetes management is beneficial. There is no evidence, however, that chronic consumption of sorbitol can enter the cells and contribute to the complications of diabetes.

If sweeteners are used then vary the use of sweeteners, each with its particular advantages is recommended in order to distribute any potential risks.

Eating large intakes of any sweeteners requires nutritional counseling. Individuals should eat limited amounts of any sweetener. Individuals should take into consideration the use of sweeteners, the overall diet and nutritional adequacy.

Better labeling is needed to inform consumers about the type of sweeteners contained in food. Food labels should list the specific caloric and non-caloric sweeteners and their amounts (in milligrams or grams) per serving.

More research is needed to identify the risks as well as metabolic effects of each sweetener and combination of sweeteners in humans, particularly in individuals with diabetes for long periods of time. Because their intake as a group may be greater than that of the general population, specific studies on children, adolescents and adults are needed. Diabetic taste preferences and the preference for sweetness in children as well as in adults to determine actual needs for alternative sweeteners should be studied.

To avoid sweetness by completely avoiding sweet foods is extreme and impractical. So there is a need for diet sweeteners. They help you manage diabetes, especially when obesity is a problem. The ideal sweetener should taste as sweet as sucrose (common table sugar), yet not increase blood glucose levels.

For those with diabetes, a saccharin-based sweetener such as Sweet 'N Low® is several hundred times sweeter than cane sugar and is an alternative sweetener to consider. Saccharin became a popular sugar substitute for people suffering from diabetes, obesity, and gout. Sodium saccharin in products may increase the sodium content in the diet. Saccharin does not convert to glucose. It is readily absorbed and is excreted unchanged by the kidneys. Saccharin is also helpful in maintaining good dental health since it helps prevent cavities.

Aspartame (Equal® or NutraSweet®) has now been approved as an alternative sweetener. It is about 200 times sweeter than sugar. Unlike other artificial sweeteners, it is made from protein and it leaves no bitter chemical or metallic aftertaste. Also, aspartame is not heat stable so it cannot be used in cooking.

Certain people have claimed to be sensitive to aspartame disclosing a wide variety of nonspecific symptoms. Research has been unable to document this sensitivity or describe how these symptoms could be triggered in the body. The amount of sweetener consumed must be individualized according to level of comfort experienced when consumed. People with phenylketonuria (PKU) are unable to metabolize the amino acid phenylalanine in

Remind participants to read nutrition and ingredient labels. Any calories from other ingredients must be counted.

Discuss the fact that non-nutritive sweeteners containing saccharin cannot be used in all recipes calling for sugar. Saccharin often develops a bitter aftertaste when it has been heated. In many recipes for baked products, sugar performs other functions besides adding sweetness. Sugar substitutes cannot perform such functions as the following: (1) to tenderize baked products; (2) to brown baked products; (3) to gel and preserve jams and jellies.

Discuss the effect of use of non-nutritive sweeteners on maintaining a taste for sweets. Ultimately the decision regarding the use of sugar substitutes rests with the diabetic.

E. Questions and Answers

If time permits the following questions may be used for group discussion. Alternatively, participants may have specific questions on foods they are not certain how to use in their meal pattern.

1. Is it all right for me to chew sugarless gum?

While it does not contain sugar and hence is recommended by dentists, it does contain carbohydrates (i.e. sugar alcohols, mannitol or sorbitol) and about 4.1 calories per stick. One stick is probably permissible but do not use excessively.

2. The packets of artificial sweetener which I like to add to my coffee or sprinkle over fresh fruit contain lactose as well as saccharin. Why does the label say, "Diabetics limited to 8 packets a day?"

The label limits diabetics to eight packets because they contain 24 calories. Lactose is a sugar the same as table sugar (sucrose), however, it is a light weight, powdery substance so that it looks more than the same weight of table sugar. Some physicians allow + 20 calories in writing diet prescriptions and for some diabetics this variation is not harmful. Ask your physician before using this product.

3. I keep dietetic cookies and candy on the shelf to help satisfy my craving for sweets. These don't have to be counted on my diet, do they?

Yes, these products have to be counted because they are "sugar-free" but not carbohydrate free. These products are, like the gum, often sweetened with sorbitol. Note the calorie content which must be given on the labels - 128 calories per wafer. Some chocolate wafers are also high in fat. Some of these wafers have 39% fat or 8.3 g. fat per wafer, 50% carbohydrate or 10.6 g. carbohydrate and 8% protein i.e. less than 2 g. Hence in terms of exchanges, 1 wafer is equivalent to 1 fruit exchange, and almost 2 fat exchanges but it does not provide any vitamin C or vitamin A.

9. How safe is the use of products with NutraSweet® for diabetics?

NutraSweet® does not interfere with the control of diabetes. This has been demonstrated in clinical studies in insulin-dependent and non-insulin-dependent diabetics given the sweetener at doses of approximately 40 mg/kg/day. Consequently, the American Diabetes Association has found NutraSweet® brand sweetener to be acceptable for use by diabetics when incorporated into diabetic meal plans. Products sweetened with NutraSweet® may contain protein, fat and carbohydrate from other ingredients and should be exchanged according to their nutrient value.

V. Alcohol

The following information on alcohol is for reference by the Extension Agent and dietitian. It can be used to facilitate answering questions or to help in planning a diet pattern when alcohol is allowed by the physician.

The diabetic should always consult with his physician regarding the use of alcohol. Alcohol is a concentrated source of calories. It is quickly absorbed and contains 7 kcal/gm. Some types of alcohol also contain high amounts of carbohydrates. These types include sweet wines, liqueurs, beef, ale, and sweetened mixed drinks. The physician should specify which type of alcoholic drinks the diabetic is allowed. Usually these drinks with high carbohydrate content should be avoided by the diabetic.

Alcohol can also stimulate the appetite which may tempt the diabetic to eat more than he is allowed. Alcohol, if taken alone by insulin dependent diabetics can cause hypoglycemia (low blood sugar). If alcohol is allowed by the physician, it should only be taken with meals and only in moderation. Usually high carbohydrate alcohols need to be avoided.

The following exchanges may be used if the diabetic is allowed alcohol. Since alcohol is metabolized in 2 carbon units like fats, fat exchanges are used. The following formula can be used to calculate calories: $(0.8) \times (\text{proof}) \times (\text{oz.}) = \text{calories}$.

Liquor: gin, rum, scotch, vodka, whiskey	1½ ounces = 2-3 fat (80 proof = 96 calories) (100 proof = 120 calories)
Dry wine (unsweetened)	3½ ounces = 1½ fat (about 70 calories)
Beer (light (lite) or low calorie <u>only</u>)	12 ounces = 2 fat (about 90 calories)



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



GENERAL GUIDE FOR THE DIABETIC DIET

HANDOUT 1

Lesson V

1. Follow your meal pattern. It has been determined by the dietitian who translates the number of calories your physician prescribed into the kind and number of food exchanges you are allowed to have at each meal. All foods on your meal pattern are to be eaten. No additional foods are permitted unless they are "Free" foods. "Free" foods are foods that do not provide calories.
2. Weigh or measure each portion of food. For this you will need some standard household measures; measuring spoons, measuring cups, and a weighing scale. With practice you may be able to judge portion sizes by sight only.
3. Eat meals on schedule to help regulate blood sugar. Skipping a meal may cause low blood sugar when you are taking insulin. Insulin shock may result.
4. Avoid foods high in simple sugar or carbohydrate. These foods will increase your blood sugar rapidly.

Foods to avoid:	Candy	Regular soda pop
	Jams and jellies	Cake
	Syrups	Cookies
	Frostings	Pastries
	Sugar	Pies
	Honey	Sweet rolls
	Molasses	

A GENERAL GUIDE TO THE EXCHANGE LISTS

1. Starch/Bread List. Excellent sources of complex carbohydrates such as bran products, breads, cereals, pastas, peas, and beans are also good sources of fiber, some minerals and B vitamins.

Toasting dries out bread but does not change the calorie content.

Note that starchy vegetables are included in this group because they contain the same amount of carbohydrate and protein in one exchange as one slice of bread.

Do not use: Sugar-coated cereals
Cereals with dried fruit
Candied sweet potatoes or yams

These foods contain simple sugar which must be avoided.

cereal, mashed potatoes, etc. as part of your milk exchanges. Ice cream is a bread exchange not a milk exchange plus two fat exchanges.

Do not use:

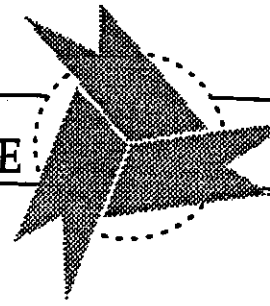
- Commercial milkshakes or malts
- Chocolate milk
- Malted milk
- Condensed milk

These foods contain simple sugars which must be avoided.

6. Fat Group. Foods in the fat group contribute essential fatty acids which the body cannot make. Fats have been divided into two categories--saturated and unsaturated. Saturated fatty acids have been shown to increase blood cholesterol levels. Examples of fats containing saturated fatty acids are fats from animal products and fats containing palm, palm kernel and coconut oils. Unsaturated fatty acids are in vegetable oils such as corn, safflower, cottonseed, soy, canola, olive and peanut oils and other sources such as nuts, avocados, etc. Fats in the diet are absorbed more slowly than carbohydrate and protein and therefore help you satisfy your hunger for longer periods of time. Also, they are a more concentrated source of energy providing about one and half more calories than proteins and/or carbohydrates.

Revised by Mary Kinney Sweeten, Ph.D., R.D., L.D., Extension Nutrition Specialist, The Texas A&M University System, August, 1990.

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

MEASURES AND WEIGHTS

HANDOUT 2

Lesson V

Because measurements and weights are important for the diabetic, the following list of measures and weights is provided.

Volume

- 1 standard size measuring cup = 8 fluid ounces
- $\frac{1}{2}$ standard measuring cup = 4 fluid ounces
- $\frac{1}{4}$ standard measuring cup = 2 fluid ounces
- 1 standard size measuring cup = 16 tablespoons
- $\frac{1}{2}$ standard measuring cup = 8 tablespoons
- $\frac{1}{4}$ standard measuring cup = 5 tablespoons
- $\frac{1}{8}$ standard measuring cup = 4 tablespoons
- 1 tablespoon = 3 teaspoons

Weight

1 pound = 16 ounces

In Metric

- 1 tablespoon = 15 milliliters
- 1 teaspoon = 5 milliliters
- 1 ounce = 30 grams
- 1 pound = 454 grams

Measuring cups and measuring spoons should be used to select portion sizes. Some foods such as meat need to be weighed. After a while the eye will become trained to judge serving sizes.

Adapted from Diabetes, Food and You, Indiana Cooperative Extension Service by Mary Kinney Sweeten, Ph.D., R.D., L.D., Extension Nutrition Specialist, The Texas A&M University System, August, 1990.

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.

HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Lesson V

Handout 3

WHAT DOES THE LABEL TELL YOU ABOUT SUGAR CONTENT OF THE PRODUCT?

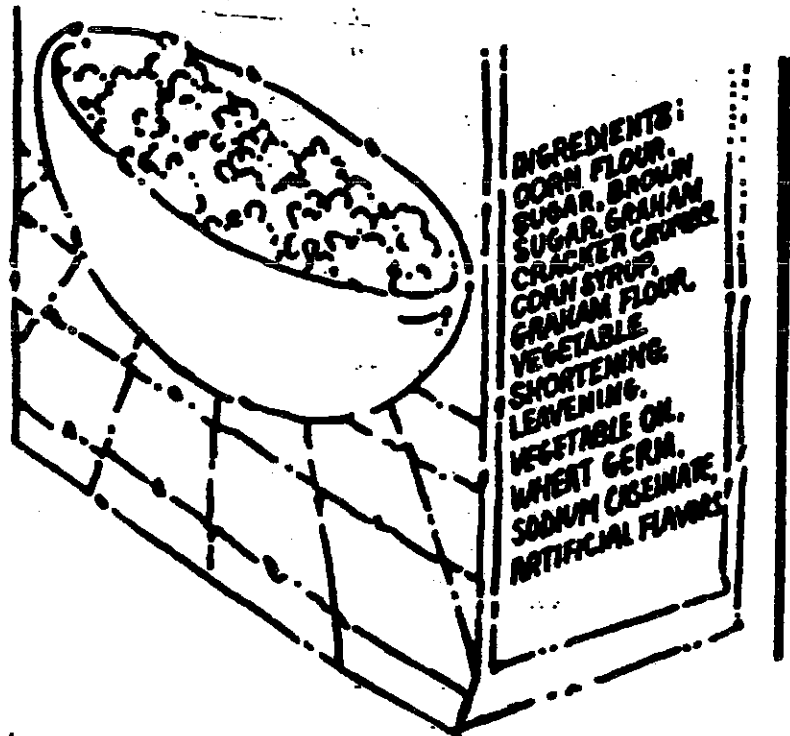
Ingredients such as sugar are listed in order of weight. The ingredient with the greatest weight is listed first followed by the next heaviest ingredient and so on down the line. If sugar or another form of sweetener is listed first, second or third, or if several different types of sweeteners are listed on the label, think carefully before using the product.

Nutritive Sweeteners

Sugar comes in many disguises; on a label it is not always identified by the word "sugar." These are some common names for sugar and sweeteners which have calories:

sucrose	glucose
fructose	dextrose
levulose	maltose
lactose	corn syrup
molasses	sorghum
maple syrup	sorbitol
high fructose	dextrin
corn syrup	brown sugar
invert sugar	mannitol
honey	

Corn flour is the primary ingredient in this product, sugar is second. But brown sugar and corn syrup are sugars, too. Together, these three sugars account for a large portion of the product.



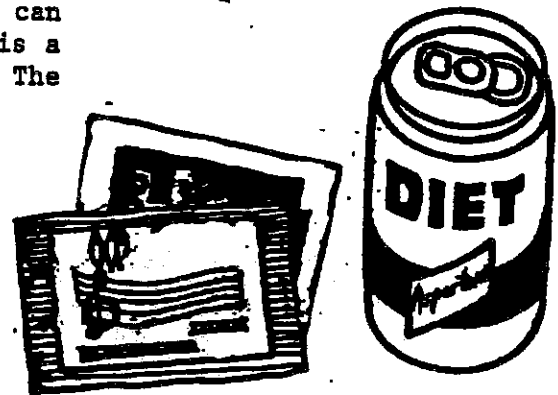
Non-Nutritive Sweeteners

Diet sweeteners known as non-nutritive sweeteners can help to manage diabetes, especially when obesity is a problem, and control weight in normal persons. The three main alternative sweeteners to sugar are:

Aspartame (Equal®, NutraSweet®)

Saccharin (Sweet'N Low®)

Acesulfame-K (SweetOne®)



Lesson V CHARACTERISTICS OF COMMON NON-NUTRITIVE SWEETENERS

Sweetener	Description	Relative Sweetness Sucrose = 1	Metabolism	Glucose Response In Diabetes	Shelflife Stability	Food Product Use	Disadvantages
Non-Caloric							
Saccharin	Caloric	300	Excreted unchanged by kidney	0	Stable under high temperatures (302°F.)	Soft drinks, tabletop sweeteners, many beverages and foods	Tastes bitter. Safety has not been firmly established.
Sweet'N Low®							
Weight Watchers®							
Sucaryl®							
Sugar Twin®							
Adolph's®							
Sweet10®							
Caloric							
Aspartame Equal®	Caloric	180-200	Digested as a protein and the amino acids are metabolized normally	Slight rise	Not heat stable (loses sweetness) Do not use to cook or bake	Carbonated soft drinks, dry beverage mixes, tabletop sweetener, refrigerated fruit juice, milk beverages, frozen desserts, puddings, pie fillings, and yogurt-type desserts. (Cannot be used in baked or cooked foods.)	Loses sweetness when heated, so not good for hot drinks or cooking. About three times more expensive than saccharin-based sweeteners.
NutraSweet®							
Non-Caloric							
Acesulfame-K SweetOne®	Non-Caloric	200	Excreted unchanged by kidney	0	Stable under high temperatures	Soft drinks, chewing gum, dry mixes for beverages, instant coffee and tea, gelatins, puddings, non-dairy creamers, and tabletop sweeteners	Slight after-taste when used alone in large amounts. For best results, should be used in combination with other sweeteners.



Prepared by Mary Kinney Sweeten, Ph.D., R.D., L.D., Extension nutrition specialist, Texas Agricultural Extension Service, The Texas A&M University System, College Station, Texas, May, 1990.

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin. Issued in furtherance of Cooperative Extension Work in Agriculture and Home Economics. Acts of Congress of May 8, 1914, as amended, and June 30, 1914, in cooperation with the United States Department of Agriculture. Zerle L. Carpenter, Director, Texas Agricultural Extension Service. The Texas A&M University System.

DIETETIC FOODS

READ ALL LABELS FOR:

***INGREDIENT LISTINGS OF FORMS OF SUGAR:**

**FRUCTOSE
LACTOSE
DEXTROSE
SUCROSE
MALTOSE**

**SORBITOL
MANNITOL
XYLITOL**

**SUGAR
MOLASSES
WHITE SUGAR
BROWN SUGAR
HONEY**

***NUTRITION INFORMATION:**

**CARBOHYDRATES
PROTEIN
FAT
CALORIES**



AVOID SOME OF THE DIETETIC CANDIES AND OTHER FOODS BECAUSE MAY CONTAIN LARGE AMOUNTS OF SUGAR INSTEAD OF SUCROSE INDICATED BY SUGARS LISTED FIRST ON THE LABEL

**Dietetic Candy
(Molasses, honey,...)**



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

Teacher's Guide

LESSON VI



EATING MIXED DISHES AND/OR AWAY FROM HOME USING DIABETIC EXCHANGES

This lesson's objectives are for the participants to:

- calculate the number of food exchanges from a recipe of a mixed dish;
- discuss self-management tips for eating out in restaurants and/or fast food restaurants;
- plan a menu for a meal eaten at a restaurant and fast food restaurant; and
- demonstrate a positive self-management attitude by expressing confidence in maintaining adequate diabetes control during special occasions.

MATERIALS NEEDED FOR LESSON VI

Handout: Recipe Conversion for Six-Layer Dinner

Handout: 1200 Calorie Meal Plan Activity for Diabetics Eating at Restaurants and Fast Food

Handout: A Guide for Diabetics Who Enjoy Eating in Restaurants

Handout: Helpful Hints for Diabetics When Eating Fast Food

Handout: Quiz - Lesson VI

Handout: Calculations of Food Exchanges in Mixed Dish Recipes

Handout: Diabetic Reference List

Handout: Evaluation Sheet

4 Sets of Sample Menus from Local Restaurants (four menus in a set)

Newsprint, markers (black, red, green)

- The next step is to divide the totals by the number of servings the recipe will make to get the number of exchanges per serving.

Most recipes will fit in our meal plan, but there are some that won't. For example, some recipes may have too much fat. You may be able to solve this problem by decreasing the size of the serving. For example, if the recipe makes four servings with four fat exchanges in each, you can decrease the size of each serving so that the recipe will make eight servings with two fat exchanges in each serving. When you see a recipe that calls for sugar, you can usually substitute a diet sweetener. (Remember, only saccharin or acetasulfame-K can be used in cooking. Aspartame products cannot withstand high temperatures.) If you have a question about whether the sweetener will affect texture, browning, etc. or not, call the Extension Service. We can usually help you. There is another twist to this story. In some cases, you don't have to omit the sugar from a recipe because the amount per serving is so small that it won't significantly change your blood sugar control. Check with your dietitian to find out how much sugar you can use.

If a recipe just will not fit into your meal plan, skip it. You can probably find one that is very similar in a diabetic cookbook.

- B. Recipes below are to use as examples. To include homemade mixed dishes in his diet, the diabetic needs to know the number of exchanges in one serving of the dish. Knowing this information will enable him to determine if the dish fits his meal pattern. Using the handout entitled "Calculation of Food Exchanges in Mixed Dish Recipes," the diabetic can convert recipes into exchanges.

Following are two recipes which are calculated for the number of exchanges per serving from the exchange lists.

Recipe No. 1: Stuffed Green Peppers
(Makes 4 servings)

4 large green peppers
½ tsp. salt
¾ lb. ground beef
2 tbsp. chopped onions
1 cup canned tomatoes
4 ounces grated sharp cheddar cheese

Remove tops and seeds from the peppers. Season each pepper with ½ tsp. salt. Mix together beef, onion, and tomatoes. Stuff each pepper with the meat mixture. Place peppers in a shallow baking dish. Sprinkle cheese over peppers. Bake in a 350° oven for 50 to 60 minutes.

NOTE: If desired, parboil peppers in boiling water for 5 minutes before seasoning.

Calculation of Food Exchanges in Mixed Dish Recipes--"Simple Exchanges"

Recipe No. 2: This recipe conversion is more difficult because it has more ingredients as well as a white sauce. You may have to look up nutritional information from the references on products not in the regular exchange booklet. Also, have a copy of Bowes and Church, "Food Values of Portions Commonly Used," 15th edition or USDA's "Nutritive Value of Foods" to look up foods not in the exchange list booklet.

Old-Fashioned Macaroni and Cheese
(Makes 6 servings)

6 to 7 ounces elbow macaroni (about 2 cups)
2 Tbsp. grated onion
1 tsp. salt
 $\frac{1}{4}$ tsp. pepper
3 cups shredded process Sharp American Cheese
(about $\frac{1}{4}$ lb.)
2 cups thin white sauce*
1 Tbsp. butter

Heat over to 375°. Cook macaroni as directed on package. Place half the macaroni in ungreased 2-quart casserole. Sprinkle with half the onion, salt, pepper, and cheese; repeat. Pour white sauce over casserole. Dot with butter. Cover; bake 30 minutes. Uncover; bake 15 minutes longer.

*White Sauce

For each cup of sauce:

1 Tbsp. butter or margarine
 $\frac{1}{2}$ Tbsp. flour
 $\frac{1}{4}$ tsp. salt
 $\frac{1}{8}$ tsp. pepper
1 cup milk

Melt butter in saucepan over low heat. Blend in flour, salt and pepper. Cook over low heat, stirring until mixture is smooth and bubbly. Remove from heat. Stir in milk. Heat to boiling, stirring constantly. Boil and stir 1 minute.

friends that they enjoy the most. In other words, would they be happy eating Thanksgiving dinner alone?

- F. Holiday Foods. Ask participants to tell you what their favorite holiday recipe is. When you have listed several people's responses, ask the group to classify the foods according to the four food groups or the Exchange System (have exchange lists handy). Most foods will fit into either system. Have Exchange Lists recipe books handy to show the abundance of recipes available for exchange and calorie-controlled diets.

You will need to discuss many of the things we have talked about today with your doctor and dietitian. Only they can provide you with the individualized instructions regarding changes in medication, activity, and meals that you will need to follow to keep your diabetes under control during the hectic holiday season. The most important thing to remember is that you may have to put a little more effort into planning your schedule and meals than the nondiabetic person does, but you can enjoy the season just as much.

III. Eating Out

- A. Eating Away From Home About one-third of the total food budget is spent by Americans as meals and snacks eaten away from home. If you had diabetes and wanted to eat away from home, what would you need to do to remain on the meal plan?

To remain on the meal plan, the person with diabetes must ask for information on the menu to be served. This may mean calling ahead for information about preparation methods, serving sizes and options for special requests.

Some people offer to bring dishes that will be appropriate for their meal plan or carry food to supplement the menu.

Fortunately, many restaurants and fast food establishments have recognized that Americans are more health conscious than they were a few years ago. For this reason, fresh salads, salad bars, baked potatoes, soups, milk, and sugar-free sodas have been added to most restaurants' standard menu. These welcome additions make it possible for you to order a meal that is low in calories, sodium, and fat and rich in fiber, vitamins, and minerals.

- B. Restaurants. Distribute the handouts entitled, "Tips for the Diabetic Who Enjoys Eating in Restaurants." Discuss the information on the handout with the class.
- C. Fast Foods. Fast food restaurants require special consideration by the diabetic. It is very easy to consume large amounts of calories from foods served at fast food operations. Their foods usually are concentrated sources of carbohydrates and fats. However, the diabetic may eat at fast food restaurants if he chooses foods that will fit his meal pattern. Distribute the handout entitled "Helpful Hints for Diabetics When Eating Fast Food." The data in this

offered. Which ones will fit into a diabetic meal plan with no adjustments? Which will require minor adjustments (e.g., sauce on the side, no gravy, broiled instead of fried, etc.)? Which will not fit? Will the serving size be too large? Is there a rich, creamy sauce? Is the product high in sugar? The Extension Agent and dietitian can check their orders by being "waitress". The participants should not be hesitant in asking the "waitress" about serving sizes, what is in mixed dishes, how the food is prepared, etc. The instructors should guide the diabetics into making correct choices. After each person has ordered, the group should compare the selections to the prescribed meal plan or the basic food groups and USDA Guidelines if a meal plan has not been prescribed. Emphasize that controlling what you eat when you eat in restaurants is not easy, but it can be done. It will take a little effort and planning on your part, but the rewards will speak for themselves.

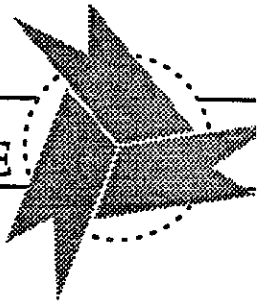
- B. Fast Food Menu Selections. Have participants choose foods to follow their meal pattern from one of the fast food restaurants menus given in the handout entitled, "Helpful Hints for Diabetics When Eating Fast Food." Divide the class into groups of three to six. Give each group a meal plan based on Exchanges and/or a meal plan based on calories. Ask them to choose a fast food restaurant and make suitable choices according to each meal plan.

An occasional meal at a fast food restaurant will not upset an otherwise well-balanced meal plan. Make your choices with care considering calories, salt, sugar, and fat as well as your diabetic meal plan.

- C. Check Out the Chart. The purpose of this handout: "Helpful Hints for Diabetics When Eating Fast Foods" is to show you the nutritive value of selected fast foods so that you can make intelligent choices. Its purpose is not to endorse any particular restaurant. Some of the foods listed will be appropriate for your meal plan while some of them will not. If our favorite fast food is not listed, compare it to a similar food or ask your dietitian to help you calculate the calories or exchanges and determine if it has a place in your meal plan.

V. Conclusions

- A. Recognize participants who attended all six lessons. Those who attended all six lessons should receive a form of recognition such as a certificate or stand. Ask if any were able to decrease blood sugar as a result of participation in the series.
- B. Distribute the handout entitled "Diabetic Resources". Discuss the various resources and types of information available from these resources.
- C. Evaluation of the lesson series. It is helpful to have some type of evaluation of the lesson series, such that the lessons may be further improved or revised. Either have the participants complete the evaluation forms before they leave, or have them send the completed forms in the mail to the Extension Agent. Extension



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

RECIPE CONVERSION FOR SIX-LAYER DINNER Lesson VI

HANDOUT 1

Name of Recipe Old-Fashioned Macaroni & Cheese
Number of Servings 6

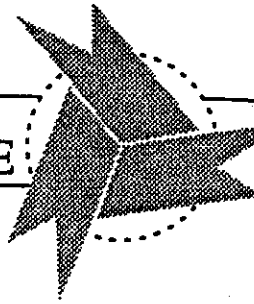
<u>Ingredients</u>	<u>Conversion</u>	<u>Exchanges per Ingredient</u>
3 cups sliced potatoes 1 17-ounce can corn 1 medium onion, sliced 1 pound ground beef 1 cup carrots 1½ teaspoon salt ¼ teaspoon pepper 1 16-ounce can tomatoes Makes 6 servings		
<u>Total Exchanges</u> (Add Exchanges per ingredient column)	<u>Exchanges per Serving</u> (Divide total exchanges by number of servings)	



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

1200 CALORIE MEAL PLAN ACTIVITY FOR DIABETICS EATING AT RESTAURANTS AND FAST FOOD Lesson VI

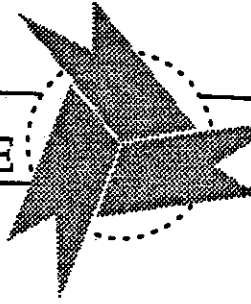
HANDOUT 2



	GRAMS	PERCENT
Carbohydrate	150 grams	50%
Protein	60 grams	20%
Fat	40 grams	30%
Calories	1200 calories	

MENU IDEAS

MEAL	EXCHANGES	Restaurants	Fast Food Restaurants
<u>BREAKFAST</u>			
2	Starch/Bread		
--	Meat		
--	Vegetable		
1	Fruit		
1	Milk (skim)		
1	Fat		
<u>LUNCH</u>			
1	Starch/Bread		
2	Meat		
1	Vegetable		
1	Fruit		
1	Milk (skim)		
1	Fat		
<u>SUPPER</u>			
2	Starch/Bread		
2	Meat		
1	Vegetable		
1	Fruit		
--	Milk (skim)		
1	Fat		



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

HANDOUT 3

A GUIDE FOR DIABETICS WHO ENJOY EATING IN RESTAURANTS Lesson VI

Eating out in restaurants can be enjoyable - especially if you KNOW YOUR MEAL PATTERN and PLAN AHEAD. Maybe this will help you....

1. Memorize your meal plan and food lists so that you can select foods at a glance.
2. Measure foods at home so that you can judge more accurately the size of portions when eating out.
3. If you expect the meal to be delayed beyond your scheduled eating time, have a snack before leaving home (your fruit or milk exchange would be a good choice).
4. Watch serving size. When a serving is too large, eat only the amount you are allowed and leave the rest.
5. When you see foods with special names on the menu, ask questions about what is in the dish and how it is prepared.
6. Ask waitress to serve condiments on the side. If possible, eat in the same restaurant regularly so that you may learn to order from their menu items.
7. Plan ahead about "interexchanges." If your doctor has prescribed an Exchange meal plan and your blood sugar is in good control, your dietitian must approve and will probably let you move some of your Exchanges from one meal to another and interexchange some of the others on occasion. For example, you can move one of your meat Exchanges (i.e., 1 ounce of meat) and all of the day's fat Exchanges to the meal you are going to eat away from home. Under most circumstances you should not use interexchanges. An interexchange is when you exchange a food from one group for a food from another group.
 - 1 fruit Exchange = $\frac{2}{3}$ starch/bread Exchange
 - 1 starch/bread Exchange = $1\frac{1}{2}$ fruit Exchange
 - 1 nonfat milk Exchange = 1 starch/bread Exchange and 1 lean meat Exchange
 - 1 nonfat milk Exchange + 1 fat Exchange = 1 starch/bread Exchange and 1 medium fat meat Exchange
8. Adjusting meal time for the diabetic person who takes insulin.

How many times have you encountered a lengthy delay at a restaurant? Keep a small can of juice in your purse or in the car just in case the restaurant has a rule not to serve customers until seated. If you had

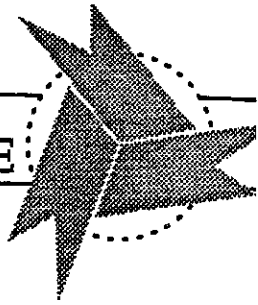
- Meat or fish appetizers and cottage cheese: Omit the appropriate number of meat and fat Exchanges from the main course.

If you blow it! If you know you have blown your diet, there is one thing you can do. Exercise! You can go dancing, take an afterdinner walk, or ride your exercise bike when you get home.

<u>Foods</u>	<u>DO Order</u>	<u>DO NOT Order</u>
APPETIZERS	Vegetable juices, unsweetened fruit juices, clear broth or consomme, fresh vegetables such as celery, radishes, etc., dill pickles; fresh fruit, fruit cocktail (unsweetened)	Cream soups, soups with noodles, rice or barley; sweetened juices, canned fruit cocktail, fish cocktails or meat appetizers unless you plan to eat a smaller portion of meat for your main dish.
SALADS	Vegetable salads without dressing or any low-calorie dressing. Ask for dressing to be brought separately, or use allowed fat exchanges for the dressing or ask for a lemon wedge or vinegar. Or, order a fresh fruit salad for a fruit exchange.	Mixtures with dressing, such as coleslaw, canned fruit or gelatin salads.
MEAT, FISH CHICKEN	Roasted, baked, blackened, mesquite-grilled, broiled or boiled. Trim off excess fat. (Remember bacon is a fat exchange.) Ask that gravy be served on the side or omitted. Peel off any breading.	Fried, grilled, sautéed, stewed, braised, breaded, with gravy or sauces. Stews and casseroles (eat at home as you know ingredients).
EGGS	Soft or hard cooked eggs or poached or baked (shirred).	Fried or scrambled or omelets. More than 3 to 4 weekly.
SANDWICHES	Meat, fish, poultry, and cheese sandwiches. They may be served with lettuce, onion, dill or sour pickles, and other fresh vegetables, mustard.	Hot gravy sandwiches, club sandwiches, cream cheese fillings, salad (such as ham or tuna) sandwiches, sandwiches grilled in fat o sauces.
POTATOES AND SUBSTITUTES	Mashed--without fat or milk; baked, boiled, steamed with no butter, gravy, or sour cream added. Pasta, rice or noodles without cream sauce or added butter.	Home-fried, browned, creamed, escalloped, au gratin, hash-browned.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



HANDOUT 4

HELPFUL HINTS FOR DIABETICS WHEN EATING FAST FOODS

As a general rule, people with diabetes can eat anywhere people without diabetes can eat. They just have to make intelligent choices, something that everyone should do. If they follow a few guidelines, they can usually eat whatever they want without seriously compromising nutritional intake and blood sugar control.

1. Know your meal plan.

You will need to know your Exchange or calorie allotments for breakfast, lunch, and dinner. Rarely will you be able to select a fast food menu that matches your prescribed diet perfectly, but you should try to get as close as possible.

2. Know the nutritional value of fast foods.

Exactly how nutritious the meal you select is depends on the choices you make. Fast foods often low in vitamin A, C, and D, folic acid, fiber, and certain minerals can be adequate in protein, thiamine, riboflavin, and calcium. Eat more fruits, vegetables, low-fat milk, and whole grain breads/cereals in your other meals and snacks can balance out the vitamins and minerals missed when eating fast foods.

3. Watch portion size.

Portion size and nutritional value are remarkably uniform in fast food restaurants across the nation. In other words, if a McDonald's hamburger is 260 calories, two starch/bread Exchanges, one medium-fat meat Exchange, and one fat Exchange in Dallas, you can expect it to be the same in (insert your town). Ask the manager at your (insert your town) favorite fast food restaurant if nutritional breakdown of food items is available. Delicatessens, sandwich shops, however, portion sizes and nutritional value can vary dramatically. When selecting from these menus you will need to figure how their foods fit within your individual meal plan. Begin by breaking down your selection into its components (two slices whole wheat bread, probably two teaspoons of mayonnaise, at least three ounces of chicken, and shredded lettuce). Then, convert into Exchanges or calories taking care not to underestimate.

4. Go easy on the salt.

Many fast foods have a high sodium content such as a Whopper that contains 1435 milligrams of sodium and a 12-inch pizza that contains 2700 milligrams so bypass the salt shaker. Condiments such as ketchup, mustard, pickles, salad dressing, and tartar sauce also tend to be high in salt. These should be used sparingly.

ARBY'S			
Food Item	Exchange	Sodium milligrams	Calories
Tossed Salad with Italian dressing	--	465	57
Vanilla Milkshake	--	245	295

BURGER KING			
Food Item	Exchange	Sodium milligrams	Calories
Sausage Breakfast Croissan'wich	1½ starch/bread 3 medium-fat meat 5 fat	1042	538
Scrambled Egg Platter with Bacon	2 starch/bread 2 medium-fat meat 5 fat	975	536
Vanilla shake	--	205	321
Croissan'wich	1½ starch/bread 1 medium-fat 3 fat	637	304
Chicken Tenders	1 starch/bread 1 medium-fat meat	636	204
French Fries, regular	1½ starch/bread 2 fat	160	227
Salad without dressing	1 vegetable	28	23
Salad with house dressing	1 vegetable 3 fat	291	158
Hamburger	2 starch/bread 2 medium-fat meat	509	275
Cheeseburger	2 starch/bread 2 medium-fat meat 1 fat	651	317
Bacon Double Cheeseburger	2 starch/bread 4 medium-fat meat 2 fat	728	510
Whopper	3 starch/bread 3 medium-fat meat 4 fat	880	628

CHURCH'S FRIED CHICKEN			
Food Item	Exchange	Sodium milligrams	Calories
Wing, Breast	$\frac{1}{2}$ starch/bread 3 medium-fat meat 1 fat	583	303
Thigh	$\frac{1}{2}$ starch/bread 3 medium-fat meat 1 fat	448	306
Leg	2 medium-fat meat	286	147
Nuggets:			
Regular (6)	1 starch/bread 2 medium-fat meat 2 fat	750	330
Spicy (6)	1 starch/bread 2 medium-fat meat $1\frac{1}{2}$ fat	546	311
Catfish (4)	1 starch/bread 2 medium-fat meat 1 fat	604	267
Catfish (7)	2 starch/bread 3 medium-fat meat 2 fat	1057	467
Hushpuppy (2)	$1\frac{1}{2}$ starch/bread 1 fat	110	156
Corn on Cob with butter oil	2 starch/bread 2 fat	20	237
French Fries, regular	1 starch/bread 1 fat	126	138

DAIRY QUEEN			
Food Item	Exchange	Sodium milligrams	Calories
Single Hamburger	2 starch/bread 2 medium-fat meat 1 fat	630	360
Double Hamburger	2 starch/bread 4 medium-fat meat 2 fat	660	530

DOMINO'S PIZZA			
Food Item	Exchange	Sodium milligrams	Calories
Cheese Pizza	3 starch/bread 1 medium-fat meat 1 vegetable	660	340
Pepperoni Pizza	3 starch/bread 2 medium-fat meat 1 vegetable	880	380
Cheese Pizza	3 starch/bread 2 medium-fat meat 1 vegetable	40	400
Pepperoni Pizza	3 starch/bread 2 medium-fat meat 1 vegetable 1 fat	1080	440

HARDEE'S			
Food Item	Exchange	Sodium milligrams	Calories
Hamburger	1½ starch/bread 1½ medium-fat meat 1 fat	589	276
Cheeseburger	2 starch/bread 1½ medium-fat meat 1 fat	825	309
½ lb. Cheeseburger	2 starch/bread 3 medium-fat meat 3 fat	1112	511
Big Deluxe	2 starch/bread 3 medium-fat meat 3 fat	903	503
Bacon Cheeseburger	2 starch/bread 4 medium-fat meat 2 fat	888	556
Roast Beef Sandwich	2 starch/bread 2 medium-fat meat	826	312
Fisherman's Fillet	3 starch/bread 2 medium-fat meat 2 fat	1013	469

KENTUCKY FRIED CHICKEN			
Food Item	Exchange	Sodium milligrams	Calories
Center Breast	1 starch/bread 3 medium-fat meat 1 fat	842	353
Drumstick	$\frac{1}{2}$ starch/bread 2 medium-fat meat	346	173
Thigh	1 starch/bread 2 medium-fat meat 3 fat	766	371
Kentucky Nuggets	1 starch/bread 2 medium-fat meat 1 fat	840	276
Kentucky Nugget Sauces:			
Barbecue Sauce	$\frac{1}{2}$ starch/bread or fruit	450	35
Sweet & Sour Sauce	1 starch/bread or fruit	148	58
Mustard Sauce	$\frac{1}{2}$ starch/bread or fruit	346	36
Buttermilk Biscuits	2 starch/bread 3 fat	521	269
Mashed Potatoes with Gravy	1 starch/bread	297	62
Mashed Potatoes	1 starch/bread	228	59
Chicken Gravy	1 fat	398	59
Corn-on-the-Cob	2 starch/bread	21	176
Cole Slaw	2 vegetable or 1 starch/bread 1 fat	171	103
Potato Salad	1 starch/bread 2 fat	396	141
Baked Beans	1 starch/bread	387	105

LONG JOHN SILVERS			
Food Item	Exchange	Sodium milligrams	Calories
Ocean Chef Salad with crackers	1 starch/bread 3 lean meat	983	222
Breaded Fish Sandwich Platter with fries, slaw	5 starch/bread 3 medium-fat meat 1 vegetable 4 fat	1402	835

MCDONALD'S			
Food Item	Exchange	Sodium milligrams	Calories
Egg McMuffin	2 starch/bread 2 medium-fat meat 1 fat	885	340
Scrambled Eggs	2 medium-fat 1 fat	205	180
English Muffin (buttered)	2 starch/bread 1 fat	310	186
Hashbrown Potatoes	1 starch/bread 2 fat	325	144
Hot Cakes (2) with butter, syrup	4 starch/bread 1 fat	640	410
Biscuit	2½ starch/bread 2 fat	730	260
Biscuit with Sausage	2 starch/bread 1 high-fat meat 5 fat	1147	467
Biscuit with Sausage and Egg	2 starch/bread 2 medium-fat meat 6 fat	1301	585
Biscuit with Bacon, Egg and Cheese	2 starch/bread 2 medium-fat meat 4 fat	1269	483
Sausage McMuffin	2 starch/bread 2 medium-fat meat 3 fat	942	427
Sausage McMuffin with Egg	2 starch/bread 2½ medium-fat meat 4 fat	1044	517

PIZZA HUT			
Food Item	Exchange	Sodium milligrams	Calories
Thin-n-Crispy Pizza Beef	3 starch/bread 3 medium-fat meat 1 fat	NA	490
Thin-n-Crispy Pizza Pork	3 starch/bread 3 medium-fat meat 1 fat	NA	520
Thin-n-Crispy Pizza Cheese	3½ starch/bread 2 medium-fat meat 1 fat	NA	450
Thin-n-Crispy Pizza Pepperoni	3 starch/bread 2 medium-fat meat 1 fat	NA	430
Thin-n-Crispy Pizza Supreme	3 starch/bread 3 medium-fat meat 1 fat	NA	510
Thick 'n Chewy Beef	5 starch/bread 4 medium-fat meat	NA	620
Thick 'n Chewy Pork	5 starch/bread 4 medium-fat meat	NA	640
Thick 'n Chewy Cheese	5 starch/bread 3 medium-fat meat	NA	560

RED LOBSTER			
(The figures are given for a 5-ounce lunch portion, dinner menu twice as large.)			
Food Item	Exchange	Sodium milligrams	Calories
Catfish	3 medium-fat meat	150	190
Atlantic Cod	3 lean meat	300	120
Flounder	3 lean meat	195	120
Grouper	3 lean meat	170	130
Haddock	3 lean meat	280	130
Halibut	3 lean meat	205	130
Mackerel	3 medium-fat meat	350	210
Monkfish	3 lean meat	195	130
Atlantic Ocean Perch	3 lean meat	290	150

RED LOBSTER			
(The figures are given for a 5-ounce lunch portion, dinner menu twice as large.)			
Food Item	Exchange	Sodium milligrams	Calories
Sirloin Steak	5 high-fat meat 2 fat	185	570
Strip Steak	4 high-fat meat 6 fat	170	690
Hamburger	4 medium-fat meat	170	320
Chicken Breast	3 lean meat	160	120

TACO BELL			
Food Item	Exchange	Sodium milligrams	Calories
Taco	1 starch/bread 2 lean meat	79	186
Plain Tostado	1½ starch/bread 1 medium-fat meat	101	179
Beef Tostado	1½ bread/starch 2 medium-fat meat 1 fat	138	291
Frijoles	1½ starch/bread 1 medium-fat meat 1 fat	280	225
Enchirito	3 starch/bread 2 medium-fat meat 2 fat	1175	454
Bean Burrito	3 starch/bread 2 fat	272	343
Beef Burrito	2½ starch/bread 3 medium-fat meat 1 fat	327	466
Combination Burrito	3 starch/bread 2 medium-fat meat 1 fat	300	404
Burrito Supreme	3 starch/bread 2 medium-fat meat 2 fat	457	361
Beef and Bean Burrito	2½ starch/bread ½ meat	9	215

WENDY'S			
Food Item	Exchange	Sodium milligrams	Calories
Sour Cream and Chives Potato	3½ starch/bread 5 fat	230	460
Crispy Chicken Nuggets (6)	1 starch/bread 2 medium-fat meat 2 fat	660	310
Chicken Nuggets (9)	1½ starch/bread 3 medium-fat meat 3 fat	990	465
Chicken Nuggets (20)	3 starch/bread 6 medium-fat meat 8 fat	2178	1023
Chili (Regular)	1½ starch/bread 2 medium-fat meat	990	240
French Fries (Regular)	2 starch/bread 3 fat	135	300
French Fries (Large)	3 starch/bread 4 fat	176	390
Chicken Fried Steak	2 starch/bread 3 medium-fat meat 5 fat	1040	580
Fish Fillet	1 starch/bread 2 medium-fat meat	475	210
Multi-Grain Bun	2 starch/bread	215	140
Taco Salad	3 starch/bread 2 medium-fat meat 2 fat	1260	430
Kaiser Bun	2 starch/bread	390	180
White Bun	2 starch/bread	255	140
Chicken Breast Fillet on Bun	2 starch/bread 3 lean meat	500	320
Nugget Sauces:			
Barbecue Sauce	1 starch/bread or fruit	100	50
Sweet & Sour Sauce	1 starch/bread or fruit	55	45
Sweet Mustard	1 starch/bread or fruit	140	50
Cheese Sauce	3 fat	415	140
Tartar Sauce	2 fat	75	80

WENDY'S			
Food Item	Exchange	Sodium milligrams	Calories
NOT RECOMMENDED FOR USE			
Frosty Dairy Dessert (Large)	--	374	680

WHATABURGER			
Food Item	Exchange	Sodium milligrams	Calories
Whataburger	4 starch/bread 3 medium-fat meat 1 fat	1092	580
Whataburger with Cheese	4 starch/bread 3 medium-fat 2 fat	1474	669
Whataburger, Jr.	2 starch/bread, $\frac{1}{2}$ high-fat meat $1\frac{1}{2}$ medium-fat meat 1 fat	684	304
Whataburger, Jr. with Cheese	2 starch/bread $\frac{1}{2}$ high-fat meat $1\frac{1}{2}$ medium-fat meat 1 fat	921	351
Justaburger	2 starch/bread 1 medium-fat meat 1 fat	547	265
Justaburger with Cheese	2 starch/bread 1 medium-fat meat $\frac{1}{2}$ high-fat meat 1 fat	784	312
Whatacatch	3 starch/bread 1 medium-fat meat $4\frac{1}{2}$ fat	722	475
Whatacatch with Cheese	3 starch/bread 1 medium-fat meat $\frac{1}{2}$ high-fat meat $4\frac{1}{2}$ fat	959	522
Fajita Taco	2 starch/bread $2\frac{1}{2}$ medium-fat meat	1070	301

WHATABURGER			
Food Item	Exchange	Sodium milligrams	Calories
Oat Bran Muffin	2½ starch/bread 2 fat	384	252
Blueberry Muffin	1½ starch/bread 2½ fat ½ fruit	184	263
NOT RECOMMENDED FOR DIABETICS			
Apple Pie	--	265	236
Vanilla Shake (small)	--	169	322

This information for foods served at your local Whataburger restaurant is based upon an analysis conducted by an independent laboratory specializing in nutritional analyses. The Diabetic Exchanges are calculated using "Exchange Lists for Meal Planning" (American Diabetes Association, Inc., The American Diabetic Association). The menu items "not recommended for diabetics" contain significant portions of carbohydrates from sugar, and are thus not advisable for diabetics.

Prepared by Mary Kinney Sweeten, Ph.D., L.D., R.D., Extension Nutrition Specialist, The Texas A&N University System, August, 1990.

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

HEALTHY FOOD CHOICES FOR DIABETICS

HANDOUT 5

QUIZ - LESSON VI

1. A. What substance do all diabetics have too much of?

- B. What substance do some diabetics have too little of? (Other diabetics may have enough of this substance, but it does not work properly.)

2. If an overweight diabetic follows his diet with care, he should expect to:
 - _____ gain weight
 - _____ remain the same weight
 - _____ lose weight
 - _____ have more sugar in his blood and urine
 - _____ have less sugar in his blood and urine
 - _____ have the same amount of sugar in his blood and urine
 - _____ have his diabetic symptoms get worse
 - _____ have his diabetic symptoms remain the same
 - _____ have his diabetic symptoms get better

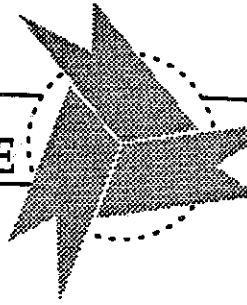
3. Which of the following methods of control should be used by all diabetics?
 - _____ Diabetic diet
 - _____ Oral tablets
 - _____ Insulin

4. Mr. Ramos and Mr. Angelo have the same height, weight, and body build. Mr. Ramos is a very active construction worker and Mr. Angelo is an office worker. Which man should need more food energy to maintain his correct weight?
 - _____ Mr. Ramos
 - _____ Mr. Angelo

5. Name the three basic foodstuffs--the nutrients which provide calories.
 - A. _____
 - B. _____
 - C. _____



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE



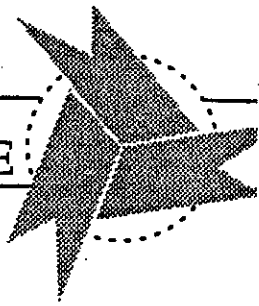
CALCULATIONS OF FOOD EXCHANGES IN MIXED DISH RECIPES

HANDOUT 6

Lesson VI

Instructions:

1. List each ingredient in the recipe separately, giving both the amount and the name of the ingredient.
2. Convert pounds to ounces (1 lb. = 16 oz.)
Convert raw weight to cooked weight where appropriate. For example, 4 oz. raw meat equals 3 oz. cooked; 1 cup uncooked regular rice yields about 3 cups cooked; 1 cup uncooked pasta yields about 2 cups cooked.
3. Use the Exchange Lists to determine the number of exchanges for each ingredient.
4. Total the number of each exchange in the recipe.
5. Divide the total for each exchange by the number of servings. The result will be the number of exchanges per serving.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

HEALTHY FOOD CHOICES FOR DIABETICS

HANDOUT 7

DIABETIC REFERENCE LIST

LESSON VI

For further information on diabetes write to the following organizations. Many of the organizations offer publications on diabetes free of charge. They will gladly supply information to you upon request.

For General Information write to:

American Diabetes Association, Inc.
National Service Center
1660 Duke Street
Alexandria, VA 22314
1-800-232-3472

American Diabetes Association
Texas Affiliate, Inc.
8140 North Mopac
Bldg. 1, Suite 130
Austin, TX 78759
(512) 343-6981
FAX (512) 343-6985

The American Dietetic Association
216 West Jackson Boulevard
Chicago, Illinois 60616-6995
(312) 822-0330

American Heart Association
7320 Greenville Avenue
Dallas, TX 75231

American Heart Association
Texas Affiliate
P. O. Box 15186
Austin, TX 78761
1700 Rutherford Lane
Austin, TX 78754
(512) 836-7220

National Agriculture Library
Room 304
10301 Baltimore Blvd.
Beltsville, MD 20705
(301) 344-3719
(Write for Pathfinder on diabetes
mellitus)

International Diabetes Center
5000 West 39th Street, 6th Floor
St. Louis Park, MN 55416
(612) 927-3393
1-800-255-4540

(Write for a list of educational
materials including visual aids
available from IDC)

Juvenile Diabetes Foundation
International
432 Park Avenue South
New York, NY 10016-8013
(212) 889-7575
1-800-223-1138

National Diabetes Information
Clearinghouse
Box NDIC
Bethesda, MD 20205
(301) 468-2162

National Eye Institute
Building 31, Room 6A32
National Institutes of Health
Bethesda, MD 20892

National Heart, Lung, and Blood
Institute
Building 31, Room 4A21
National Institutes of Health
Bethesda, MD 20892
(301) 496-4236

Texas Department of Health
Warehouse Manager
Literature and Forms Division
1100 West 49th Street
Austin, TX 78756-3199
(512) 458-7534
(Ask for written and/or resources
catalog)

American Diabetes Association

(Write ADA-Texas Affiliate for publication price lists or ask local county agent for a copy. Order separately from the following address: American Diabetes Association, Texas Affiliate.)

American Diabetes Association, Inc.
National Service Center
1660 Duke Street
Alexandria, VA 22314

American Diabetes Association
Cookbooks/References
Texas Affiliate, Inc.
8140 North Mopac
Bldg. 1, Suite 130
Austin, TX 78759

- AMERICAN DIABETES ASSOCIATION/THE AMERICAN DIETETIC ASSOCIATION FAMILY COOKBOOKS (Volumes I, II, and III), Revised 1987.
- AMERICAN DIABETES ASSOCIATION HOLIDAY COOKBOOK
Betty Wedman, M.S., R.D.
Prentiss Hall Press, New York, NY 1986
- AMERICAN DIABETES ASSOCIATION SPECIAL CELEBRATIONS AND PARTIES COOKBOOK
Betty Wedman, M.S., R.D.
- EXCHANGE LISTS FOR MEAL PLANNING (Revised American Diabetes Association Exchange Lists, 1986)
- MONTHS OF MEALS
Thirty days' worth of menus for breakfast, lunch, dinner, and snacks to fit 1200, 1500, or 1800 calorie meal plans. Many of the menus have recipes, too.
- Reprints of popular articles from Diabetes Forecast:
 - Diabetes '90
This free ADA quarterly newsletter is written for people who live with diabetes. For yourself or a friend.

• Meal Planning for Ethnic Groups:

- JEWISH FOODS (bulletin)
- MEAL PLANNING WITH MEXICAN AMERICAN FOODS (bulletin)
- PLANIFICACION DE COMIDAS CON ALIMENTOS MEXICANOAMERICANOS (Spanish)
- COMO ESCOGER ALIMENTOS SALUDABLES
- ETHNIC AND REGIONAL FOOD PRACTICES--MEXICAN AMERICAN--FOOD PRACTICES, CUSTOMS, HOLIDAYS (booklet)
- ETHNIC AND REGIONAL FOOD PRACTICES--JEWISH FOODS--FOOD PRACTICES, CUSTOMS, HOLIDAYS (booklet)
- EATING HEALTHY FOODS (exchange booklet with large illustrated text)

Other Diabetes References

Better Homes and Gardens
EAT AND STAY SLIM
Meredith Corporation
Des Moines, IA
(Available at bookstores and grocery stores)

EXCHANGE LISTS FOR MEAL PLANNING
American Dietetic Association
216 West Jackson Blvd.
Chicago, IL 60616-6995

CONVENIENCE FOOD FACTS; HELP FOR THE HEALTHY PLANNER
Arlene Monk and Marion Franz.
International Diabetes Center.
Minneapolis, N. 1987. 188 p.

DIABETES IN THE NEWS
 American Educational Service
 P. O. Box 3105
 Elkhart, IN 46515
 \$6/year
 \$11/2 years
 \$16/3 years

DIABETIC SWEETENER RECIPES/PAMPHLETS
 REQUESTS WRITE:

- Address for recipe information from Sweet 'n Low® (Saccharin) Guidelines for Canning and Preserving Using Sweet 'N Low® and Fast and Fit
 Cumberland Packing Corporation
 Department PTB
 60 Flushing Avenue
 Brooklyn, NY 11205
 (1-800-231-1123)
- Address for recipe information from SweetOne® (Acetasulfame-K)
 The Stadt Corporation
 Department XL
 60 Flushing Avenue
 Brooklyn, NY 11205
 (1-800-544-8610)
- Address for recipe information from Nutra Sweet® (aspartame)
 Searle Food Resources, Inc.
 Subsidiary of G.D. Searle and Company
 P. O. Box 111
 Skokie, IL 60076

DIABETIC COOKING WITH INTERNATIONAL FLAIR

Ann Watson and Sue Lousley. The Body Press. Arizona. 1987. 128 p.

DIET DELIGHT COOKBOOK FOR DIABETIC CHILDREN

California Cannery and Growers Cookbook
 3100 Ferry Building
 San Francisco, CA 94106

EXCHANGE LISTS FOR MEAL PLANNING
 The American Diabetes Assoc., Inc.
 Texas Affiliate
 8140 North Mopac
 Bldg. 1, Suite 130
 Austin, TX 78759

EXCHANGE LISTS FOR MEAL PLANNING
 The American Dietetic Association
 216 West Jackson Blvd., Suite 800
 Chicago, IL 60606-6995

EXCHANGES FOR ALL OCCASIONS
 Marion Franz. International Diabetes Center. Minneapolis, MN. 1987.

TAKING CHARGE OF YOUR DIABETES (booklet)
 Roerig-Pfizer, New NY. 1987.

BOWES AND CHURCH
 FOOD VALUES OF PORTIONS COMMONLY USED, 15th Edition
 J.A. Pennington and H.N. Church
 Revised 1989
 J.B. Lippincott Company
 East Washington Square
 Philadelphia, PA 19105
 328 pages, \$15.95

FAST FOOD FACTS
 Eli Lilly Company
 Indianapolis, IN 46285
 or from local Lilly Drug Representative

Hanson Scale Company
 1777 Shermer Road
 Northbrook, Illinois 60062

HEALTHY FOOD CHOICES FOR DIABETIC MEXICAN-AMERICANS

Pamphlet, Texas Agricultural Extension Service
 County Extension Agent (home economics)

HOECHT-ROUSSEL PAMPHLETS FOR TYPE II DIABETICS

- Take Control of Your Type II Diabetes

**HEALTHY FOOD CHOICES--FOR PEOPLE
WITH DIABETES**

Pamphlet/Recipes (Free)
The Growers of Washington State
Apples

P. O. Box 550-ADA
Wenatchee, WA 98807
(509) 663-9600
FAX (509) 662-5824

**MCDONALD'S NUTRITION INFORMATION
CENTER**

McDonald's Plaza
Oak Brook, IL 60521
(708) 575-FOOD

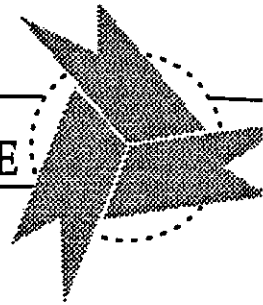
Food, Sodium and Cholesterol
Content of Foods Served at
McDonald's Restaurants, 1990

Food Exchange List for McDonald's
Restaurants, 1990

McDonald's Food: The Facts

Compiled by Mary Kinney Sweeten, Ph.D., L.D., R.D., Extension nutrition specialist, The Texas A&M University System, August, 1990.

Educational programs conducted by the Texas Agricultural Extension Service serve people of all ages regardless of socioeconomic level, race, color, sex, religion, handicap or national origin.



HEALTHY FOOD CHOICES FOR DIABETICS SHORTCOURSE

EVALUATION OF THE SHORTCOURSE HEALTHY FOOD CHOICES FOR DIABETICS

HANDOUT 8

Lesson VI

Your cooperation is needed in completing the following evaluation forms. The evaluations will be used to improve and revise the Healthy Food Choices for Diabetics.

The following is a list of topics covered in the lesson series. You may refer to this list in answering the questions below it.

1. Food Preference questionnaire
2. Goals of dietary treatment
3. Explanation of Exchange Lists
4. Composition of Food (carbohydrate, protein, and fat)
5. How to plan and shop for foods for diabetics
6. Development of individual meal patterns
7. Calculating exchanges using labels
8. Developing a day's menu
9. Convenience food exchange list
10. Measuring and weighing activity
11. Dietetic products
12. Diet sweeteners
13. Calculation of exchanges in mixed dishes
14. Tips for the diabetic who enjoys eating out in restaurants
15. Food exchanges for fast food restaurants
16. Role-play eating out

Was the lesson series a worthwhile experience? Why? _____

What portions of the series did you find most helpful? _____

What portions of the series did you find difficult to follow or understand?

Any suggestions for improvement? _____

What additional topics do you think should have been covered? _____

What topics do you think should have been omitted? _____

