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In the Market for Weight Loss  
Michigan State University  
Cooperative Extension Service  
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June 1984  
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*In the  
Market  
for  
Weight Loss*



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COOPERATIVE EXTENSION SERVICE • MICHIGAN STATE UNIVERSITY  
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# IN THE MARKET FOR WEIGHT LOSS

Are you fighting a losing battle—the battle of the bulge? If so, chances are you've been in the market for weight loss recently. Although losing weight may seem like an impossible task to you, it doesn't have to be. A good way to start is to understand problem areas that trigger you to eat and how to control them.

## WHAT IS OBESITY?

Obesity is an excess of body fat. It occurs when more energy is taken in than is used. In other words, it is the result of overeating. The extra food taken in becomes extra fat.

Overweight and obesity are common terms that can be defined using standard height-weight tables. To be obese means that you are 20 percent or more over the recommended weight for your height and body frame. Overweight is excessive heaviness. It may or may not be due to extra fat. The term overweight is used if weight for height is 10 to 20 percent over the recommended desirable weight. However, a person may be overweight on the basis of bone structure or musculature when compared with a standard table, yet not have an excessive amount of fat in the body. Athletes, for example, often carry an excess amount of weight, yet the weight is muscle, not excess fat.

A person's weight is the sum total of many complex factors. Heredity, eating habits, environmental cues, activity, psychological factors and individual differences may all contribute to how much you weigh.

### What are the Hazards?

The risks of illness—and even death—are greater for the obese person. They have a higher incidence of health problems such as diabetes, high blood pressure, gall bladder disease, coronary atherosclerosis, abdominal hernias and varicose veins. Most diseases are more complicated when a person is obese.

Hazards of surgery, pregnancy and childbirth are magnified for the obese person. In fact, virtually every single medical problem is compounded and involves greater risks when a person is obese.

Fortunately, almost all of obesity's bad effects can be reversed with weight loss. According to life insurance studies, people who lose and keep off excess weight have as long a life expectancy as if they had never been obese.

## TREATMENT OF OBESITY

There is no easy way to lose weight. Pounds accumulated over a 10 year period cannot be lost in 10 days. Fad diets that promise quick weight loss by following a strict eating plan for a short time are

A goal weight depends on several factors such as physical build, motivation, health status and environmental influences. Refer to the height-weight charts on page 19 to determine your approximate weight range or make an appointment to consult with a nutritionist.

### 3. REARRANGE YOUR EATING ENVIRONMENT

Many of us eat in response to specific stimuli in our environment. For example, watching a movie can automatically trigger a craving for buttered popcorn; or passing a bakery can make you want to stop, buy and eat even though you just had a meal. Here are some tips for eliminating these cues to gain control of your eating.

- Don't let your emotions rule your eating. In place of eating during emotional stress, resort to some engrossing and enjoyable activity. These activities should be readily available and be ones in which eating cannot be done while engaged in that activity. Such activities could include:
  1. Singing
  2. Taking a shower
  3. Talking on the phone with a friend
  4. Painting
  5. Running errands
  6. Writing letters
  7. Bicycling or jogging
  8. Doing housework
  9. Taking part in sports such as tennis, swimming or softball
  10. Gardening
- Establish one eating place in the home and eat there only. This cuts out snacking in front of the TV, in the bedroom, on the couch and the like.
- Restrict eating to one place, one restaurant or one type of restaurant at work. If possible, avoid cafeterias that display many tempting selections, and stick to a restaurant where table service is available.
- Rid the house of high calorie foods, sweets and non-essential foods. Stock up on low calorie nutritious finger foods that are allowed on the diet such as celery, cabbage, cauliflower and cucumbers.
- Prepare only enough food for one meal. Leftovers can be a cue to continue eating even when hunger subsides.
- Plan menus which include your family's favorite foods—not yours.
- Clean plates into the garbage and remove all foods from the table as soon as you are finished eating. This prevents nibbling.
- Eat slowly and chew each mouthful thoroughly. Put eating utensils down after every three bites. Swallow food completely before putting more food on eating utensils.
- Stretch out meals by making them last from 20 to 30 minutes. It takes about 20 minutes from the start of the meal for the stomach to signal a feeling of satiety (fullness) to the brain.

- Think before you eat! Often just writing down the caloric value of a food you crave is enough to keep you from eating it.

#### 4. REWARD YOURSELF

Possibly the most important part of behavior modification is the reward system. Food provides potent and immediate rewards. So, when reducing, it becomes necessary to find other positive, meaningful and "valued" substitutes or rewards. Rewards should be meaningful to you, be something you really desire and provide immediate feedback.

Here are some ideas for congratulating yourself:

1. Work out your own schedule of rewards, assigning points for goals achieved within specified time intervals. For example, give yourself three points for following the diet for a day, two points for walking to work, etc. Points accumulate and later are exchanged for the actual reward. Rewards might be going to a movie for 100 points or new shoes for 150 points. If you slip, subtract points. For example, indulging in a high-calorie snack might cost you five points.

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#### REWARD SYSTEM

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ACTION	AMOUNT	POINTS
Follow diet	1 day	3
Follow diet	1 week	21
Ate cheesecake		-5
Walk to work	1 way	2

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REWARD	POINTS
Movie	100
New shoes	150
New book	100
Weekend vacation	250

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2. Ask for help, encouragement and praise from family members and friends. Studies have shown that a support group has a positive effect on modifying behavior.
3. Make a contract with a family member or friend who's also weight watching. Together, set specific goals, time periods and payoffs.
4. Just be sure to NEVER use any form of food for a reward.

Plan rewards for accomplishments of each short step of your program—not the long-term goal of losing weight. Then be sure to collect for yourself. Successfully changing eating habits one step at a time will eventually lead to weight loss.

## **CALORIES DO COUNT**

Calories measure both the amount of energy in food and the amount of energy spent in physical activity. The more calories a food has, the more energy it will give us. If we don't need that energy, the body stores it as fat.

Foods are made of proteins, carbohydrates, fats, vitamins, minerals and water. Three of these nutrients supply energy or calories. These are proteins, carbohydrates and fats. Vitamins, minerals and water do not supply calories for the body.

Protein and carbohydrates contain the same number of calories—four calories per gram. Fat has more than twice as many—nine per gram. Alcohol is also a source of calories to the body. It has seven calories per gram, almost twice as many as protein and carbohydrate.

The number of calories in a food depends on how much protein, fat and carbohydrate it contains. If large amounts of these nutrients are present, the food is high in calories; if small amounts are present it is low in calories. As a general rule of thumb use the following guide to quickly judge the caloric value of foods.

### **FOODS RELATIVELY LOW IN CALORIES ARE:**

- thin, watery or dilute;
- bulky, fibrous or coarse;
- watery-crisp instead of greasy-crisp.

### **FOODS RELATIVELY HIGH IN CALORIES ARE:**

- thick, oily or greasy-crisp;
- slick, smooth or gooey;
- sweet or sticky;
- compact or concentrated;
- alcoholic.

## **How We Use Calories**

There are two basic ways our bodies use the calories we get from the foods we eat: (1) to maintain body processes necessary for life and growth, and (2) to perform physical activity. The amount needed in each way varies from person to person.

Most of our calories are needed to maintain the body processes necessary for life and growth: energy to keep the heart beating, the lungs breathing, the kidneys eliminating waste products, the cells of the body repairing themselves and for production of heat to keep body temperature normal. The amount of energy needed to keep these processes going when the person is completely inactive is called the basal metabolic rate or BMR.

Many conditions affect the BMR. Some of these are body weight, size, amount of muscle or bone, bone size, age, sex and hormonal factors. A large person, with a greater amount of muscle and bone, requires more calories than a smaller person. Age also influences BMR. During periods of growth the BMR increases, then decreases throughout adult life.

How many calories do you use in a day? The best way to find out is to keep a chart of your daily activities for several days. Here's an example:

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### ACTIVITY/CALORIE RECORD

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ACTIVITY	MINUTES	CALORIES USED PER MINUTE	TOTAL
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Then use the table of calorie values for different activities (given below) to figure how many calories you usually use in a day.

ACTIVITY	APPROXIMATE CALORIES USED PER MINUTE
<b>Personal</b>	
Bathing, brushing teeth	2.5
Dressing, undressing	3.0
Eating	.8
Sitting	1.5
Sleeping	1.0
Standing	2.0
<b>Domestic</b>	
Dishwashing	1.0
Ironing	1.0
Playing with children	5.0
Sweeping or dusting	1.5
<b>Locomotion</b>	
Climbing steps	10.5
Driving a car	2.25
Jogging	12.0
Running	15.0
Walking (2 mph)	2.5
Walking (4 mph)	5.8

**Physical Activities**

Archery	5.2
Basketball	9.0
Bicycling (7 mph)	6.0
Bowling	4.2
Dancing (slow)	4.75
Dancing (fast)	7.5
Floor exercises	7.0
Football	8.5
Gardening	7.75
Golfing	5.0
Horseback riding	
Walk	2.6
Gallop	10.0
Office work	1.6
Racket ball	8.2
Skiing	10.1
Swimming	8.5
Tennis	7.0
Volley ball	6.5

Complete the picture by comparing the total calories you **spend** in a day with a record of your daily **intake** of calories from food. Choose three consecutive days, not including a weekend, to record the foods you eat. Don't forget bites you eat while watching TV and cooking. You may be surprised at the answer!

**FOOD/CALORIE RECORD**

	Day 1		Day 2		Day 3	
	Food	Calories	Food	Calories	Food	Calories
Breakfast						
Snack						
Lunch						
Snack						
Supper						
Snack						
	Total		Total		Total	
	Calories		Calories		Calories	

The difference between these two numbers tells you how well you are balancing the energy you take in with the energy you spend. To maintain a constant weight these figures need to be fairly close. If the number of calories you take in is greater than what you are using in activities, those extra calories show on the scale as added pounds.

### Estimating Calorie Needs

1. Determine your desired weight from the Height-Weight tables on page 19.
2. Select your appropriate activity level according to the categories below:
  - Very Light: Sitting most of the day, studying, talking, two hours of standing or leisurely walking.
  - Light: Light activity in exercise (stretching, walking to the store or to class), but a sitting job.
  - Moderate: Moderate activity in exercise (walking, gardening, carpentry, housework), but a sitting job.
  - Strenuous: Heavy activity in exercise (skating, outdoor games, dancing, running two to three miles per day), but a sitting job.
  - Very Strenuous: Heavy activity in exercise (tennis, actual swimming, basketball, football, running five or more miles per day); moderate exercise on the job.
3. Use the following chart to determine how many calories your body uses per pound of body weight. This varies depending on your age, sex and activity.

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#### CALORIES USED PER POUND OF BODY WEIGHT

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ACTIVITY	WOMEN Calories/Pound	MEN Calories/Pound
Very light	12	14
Light	13	15
Moderate	14	16
Strenuous	15	17
Very Strenuous	16	18

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4. Multiply your desired weight by your calories per pound of body weight. This figure equals the number of calories you need to maintain your desired weight once you reach it.

To lose weight, the calories you take in should be less than the calories your body needs. You can lose a pound a week without increasing activity by following this formula:

$$1 \text{ pound body weight} = 3500 \text{ calories}$$

$$3500 \text{ calories} \div 7 \text{ days} = 500 \text{ calories}$$

You must consume 500 calories less per day to lose one pound of fat per week.

### Calories for Losing Pounds

1. Determine the total calories needed to maintain your desired weight.
2. To lose one pound of weight per week subtract 500 calories a day; to lose two pounds per week subtract 1000 calories per day. Diets under 1200 calories for women and under 1600 calories for men should be supervised by a physician. A one to two pound weight loss per week is a recommended and safe amount. Many fad diets advertise that you can lose much more than this but the weight loss is usually due to water and is only temporary.
3. Subtract line 2 from line 1. This is a recommended calorie level for weight loss based on your age, sex and activity level.

## THE FOUR FOOD GROUPS

### Milk Group

#### Some milk for everyone

Children under 9 ... 2 to 3 cups  
Children 9 to 12 3 or more cups  
Teenagers ..... 4 or more cups  
Adults ..... 2 or more cups

Cheese and ice cream may replace part of the milk. The amount of either it will take to replace a given amount of milk is figured on the basis of calcium content. Common portions of various kinds of cheese and of ice cream and their milk equivalents in calcium are:

1-inch cube cheddar-type cheese	= 1/2 cup milk
1/2 cup cottage cheese	= 1/3 cup milk
2 tablespoons cream cheese	= 1 tablespoon milk
1/2 cup ice cream or ice milk	= 1/3 cup milk
1 cup yogurt	= 1 cup milk

### Bread-Cereal Group

#### 4 or more servings

Whole grain, enriched, or restored

Count as 1 serving: 1 slice of bread; 1 ounce ready-to-eat cereal; 1/2 to 3/4 cup cooked cereal, cornmeal, grits, macaroni, noodles, rice or spaghetti.

### Meat Group

#### 2 or more servings

Beef, veal, pork, lamb, poultry, fish, eggs

As alternates—

dry beans, dry peas, nuts

Count as a serving: 2 to 3 ounces (not including bone weight) cooked lean meat, poultry, or fish. Count as alternatives for 1/2 serving meat or fish: 1 egg, 1/2 cup cooked dry beans, dry peas, or lentils; or 2 tablespoons peanut butter.

### Vegetable-Fruit Group

#### 4 or more servings

Include—

A citrus fruit or other fruit or vegetable rich in vitamin C every day.

A dark-green or deep-yellow vegetable for vitamin A — at least every other day.

Other vegetables and fruits, including potatoes.

Count as 1 serving: 1/2 cup of vegetable or fruit; or a portion as ordinarily served, such as 1 medium apple, banana, orange, or potato, half a medium grapefruit or cantaloupe, or the juice of 1 lemon.

## **THE FOOD GUIDE TO A BETTER DIET**

Many overweight people skip breakfast, miss lunch, snack between meals and eat 75 percent of their food for the day between 4:00 p.m. and midnight. Does this sound like you? Eating like this causes a nutritional overload—so many calories taken in all at once that only a small portion of them can be used as energy. The extra calories are stored as fat. For this reason, it's better to avoid eating a large amount at any one time—spread those calories out over the entire day.

Using the Food Groups as your daily guide to good eating will help you plan meals. There are four groups in all. Notice the recommended number of daily servings and description of serving size for each group. By choosing the lower calorie foods in each group, you can meet your body's needs for good nutrition, but not its calorie needs. The result: weight loss.

Foods like butter, salad dressings, pie, cake, cookies, beer and wine—the dieter's downfall—fall into a fifth group known as the Fats-Sweets-Alcohol group. Although they furnish some nutrients, these foods mainly provide calories. For the dieter, these are the foods to cut down on first.

How many calories can you expect from a day's meals using the four food groups guide? Generally, the day's total will be about 1200. The number will mostly depend on what choices you make. For instance, chicken and fish will be lower in calories than red meats, and salad vegetables lower than most other vegetables. Skim milk can save you almost 50 calories over whole milk, just as choosing plain yogurt for a snack instead of ice cream helps you cut down. Try baking, broiling or grilling meats instead of pan frying them to cut calories. Learn to flavor foods with herbs and spices, rather than butter or rich cream sauces. And, of course, there's always plenty of water to drink—try it next time instead of reaching for a soft drink.

The way you mix and match foods from the four food groups is your choice. Remember your first responsibility is to supply the vitamins, protein and minerals your body needs daily. The guide is flexible enough to allow you to choose a wide variety of foods that will help you meet these needs.

### **PHYSICAL ACTIVITY AND WEIGHT CONTROL**

Physical activity is a critical factor in weight control. You need to increase your energy output to lose weight. Numerous studies have shown that pounds go off faster and stay off longer when more calories are burned through physical activity.

Not only does increased physical activity help you lose weight, it makes you more physically fit. People sleep better, think better, digest better, enjoy life more and feel better when they are "in shape." It's having good health plus the capacity to perform everyday tasks and to meet emergencies as they arise.

Many people believe that exercise increases your appetite and therefore defeats the purpose of trying to control calories and lose weight. On the contrary, moderate amounts of exercise help to control appetite. The body has built-in controls which either increase or lessen appetite according to the body's needs.

You don't have to jump right in a vigorous fitness program to increase your use of calories. Many small increases will make a difference. For the person with a lot of weight to lose, a gradual approach is probably more realistic.

Start increasing your activity in little ways. Here are some ideas:

- Park your car or get off the bus several blocks from home or work and walk the rest of the way.
- Walk up and down stairs. Make elevators and escalators off-limits.
- Find a mail box 10 minutes away from home or office. Walk there to mail letters.
- Answer the phone farthest away.
- Sit instead of lying down; stand instead of sitting; and move in place instead of standing still.
- Walk to children's rooms to talk to them, instead of raising your voice to be heard.
- Take articles upstairs making several trips throughout the day rather than piling things on the steps for a later trip.
- Walk to work, or start out walking part way and increase the distance.
- Don't take advantage of non-essential labor savers. Riding a lawn mower may be faster than pushing one, but you won't use many calories if you sit as you mow. Hang clothes outside instead of using the dryer.

None of these changes in your activity will cause immediate weight loss. After all, it does take 36 hours of walking to work off a pound. But remember, you don't have to do all the walking at once. Energy is used even if you walk just a little everyday.

However, you may want to "get into condition" and burn up even more calories. If so, a sensible exercise routine is a good idea. That doesn't necessarily mean dressing in leotards and "exercising" with a massage machine or playing touch football until you're exhausted. Such routines don't really help dieters reach their goals.

Why? Because you need to form new habits that help you cut caloric intake and increase energy expenditure. That doesn't mean making a heroic sacrifice and starving yourself for a day or two—or exercising once until you're exhausted. Instead it means moderate amounts of exercise on a routine basis. The most successful exercise routines are ones that are adjusted to meet your needs and your environment.

Here are some tips for a successful exercise program:

1. Have a thorough medical checkup and approval of your physician prior to participating in an exercise program.

2. Wear clothes that are loose and easy to exercise in.
3. Take exercise daily for best results. Daily exercise reduces stiffness.
4. Exercise at the same time everyday. Immediately after meals or just before bed is not the best time to exercise since it might make you feel uncomfortable. Make exercise part of your routine.
5. Perform exercise slowly without quick, jerky movements. This helps prevent soreness.
6. Start each exercise period with light exercise to warm-up, then gradually work-up to more vigorous exercise.
7. Keep exercise periods short and organized to avoid boredom and discouragement.
8. Avoid doing just the easy exercises you like, but pay attention to the weak areas.
9. Plan for companionship or music when exercising. Also, add variety to make it fun.
10. Don't worry about developing bulging muscles. This is highly improbable. Remember firm muscles are more attractive than sagging ones.
11. End up your exercise with a warm bath or shower to complete that "relaxed well-being" feeling.
12. Remember there is no such thing as "effortless exercise." Fancy machines, girdles and belts are not effective for "spot reducing," "breaking up fatty deposits" or "melting away fat"—they only melt away your purse! It takes hard work to firm up sagging muscles.

Probably the primary benefit of increasing your physical activity is reaching that number one goal—weight loss. Increased physical activity can help make energy **out** greater than energy **in**, so extra weight stored as fat is used and pounds are lost. Once your ideal weight is achieved, physical activity can help keep the balance of energy in and out to maintain that ideal spot on the scale.

### **TAKE OUT CALORIES TO TAKE OFF WEIGHT**

Obviously, the way a food is prepared makes a difference in the calories in the final product. Simple adjustments may have to be made in preparing and serving food. For example, for vegetables seasoned with butter or margarine, remove the dieter's portion before adding the fat. If a sauce or gravy is planned, serve it in a separate container. This way each family member can control the number of calories consumed. Offer low calorie salad dressings along with regular salad dressings for fruit or vegetable salads.

Include your favorite recipes in your diet by modifying them to reduce calories. Substitutions that can save on calories are listed below.

- Use salad dressing (mayonnaise type) in place of mayonnaise as a sandwich spread. Salad dressing contains about half the calories of mayonnaise.

- For dips or prepared salad dressings, replace sour cream or mayonnaise with plain yogurt, salad dressing or whipped/blended cottage cheese.
- Skim milk, evaporated skim milk or non-fat dry milk can easily be substituted in recipes calling for whole milk. Non-fat dry milk contains fewer calories and it is very economical.
- Neufchatel cheese may be used in place of cream cheese. Neufchatel cheese is a low fat version of cream cheese, so it has fewer calories. Neither cheese, however, is low calorie.
- Use chicken breasts in recipes that call for veal steak or cutlets. Again you will save on your pocketbook as well as calories.
- Poultry skin contains large amounts of fat. Pull it off before cooking to remove those calories.
- When preparing gelatin salads or desserts, use low-calorie gelatin. You'll save at least 70 calories per 1/2 cup serving.
- Fruits packed in a syrup can double the amount of calories. The fruits absorb the sugar so the extra calories cannot be washed off. Use fresh or unsweetened frozen fruits, unsweetened juices, water-packed fruits or fruits packed in their own juice.

### **Plan Better—Lose Sooner**

The last step in your battle against the bulge is careful meal planning, including the selection and purchasing of food. Of course, planning takes time but the results are worth it.

Menu planning lets you create some new and exciting menu combinations and helps you stick with your diet by eliminating impulsive buying. In addition to curbing your appetite, menu planning can help you curb your costs at the grocery store.

Use these suggestions to help you master meal planning.

- Make meals nutritious and attractive with as much variety as possible. One reason why some diets fail is because only a few foods are included in the diet. Such restrictions can lead to poor nutrition as well as a lack of interest in the diet and dieting.
- Plan menus for an entire week. Doing so will help you include variety and allow you to take advantage of food specials and seasonal foods.
- Limit leftovers by preparing just enough food for the meal. Otherwise the intended leftovers may become second-helpings.
- Include one good source of vitamin C every day and a good source of vitamin A three or four times a week (dark green and yellow vegetables).
- Instead of planning two different meals—one for the dieter and one for the rest of the family—use the same menu for the whole family but change the amounts served and the way the food is prepared.

Begin by planning a basic dieter's menu and add a few higher calorie foods to it for the non-dieters. Foods that can add calories would be starchy vegetables, breads, fats, whole milk products and desserts. The amounts served can also be changed to suit the dieter and non-dieter's requirements.

	DIETER	NON-DIETER
Broiled Ground Beef Patty	2 ounces	4 ounces
Broccoli Spears	1/2 cup	3/4 cup
Mixed Fruit Cup	1/2 cup	3/4 cup
Corn Muffins	1	2
Unsweetened Ice Tea	as desired	as desired

Plan at least one food in each meal from the vegetable or free foods list that can be eaten in a large enough quantity to be filling. If you enjoy snacking, reserve part of your meal for an afternoon or late-evening snack. Fruits and fruit juice, a slice of bread, a glass of skim milk, raw vegetables and bouillon could easily be reserved as snack items. Keep high calorie snack foods out of sight.

### Shopping for Less

Now that your meal strategies are arranged, take precautions when shopping. Extra care can save you money and calories. Here are a few shopping tips.

- Make a shopping list to avoid impulse buying. Impulsive buying usually leads to increased cost and calories.
- Eat before shopping. A hungry person not only buys more food than they need but also foods higher in calories, such as pastries and snack items.
- Buy lean meats, chicken and turkey, as they contain less fat. Remember that the more expensive cuts of beef usually contain more marbling or fat.
- Choose the deepest color of ground beef for the leanest meat.
- Restrict the use of luncheon meats, all of which have a high fat content.
- Select fat-free or low-fat milk. Skim milk, low-fat milk, evaporated skim milk, nonfat dry milk and buttermilk made from skim milk are acceptable.
- Use cheeses made from skim milk. Cottage cheese, farmer's cheese or pot cheese are low in fat and high in protein. Creamed cottage cheese has had some cream added and, therefore, has more calories. Parmesan cheese, ricotta and mozzarella cheeses are made from partially skimmed milk and should be used in small amounts.
- Avoid process cheeses, process cheese foods, process cheese spreads and cheddar cheese. They are high in calories.
- Learn to recognize the different names for sugar. Sucrose, dextrose, corn syrup, glucose and fructose are all sugars. Sugar alcohols, such as mannitol and sorbitol, also contain calories.
- Use nutritional labeling to help you select foods which are low in calories but high in nutrients. You can get the most out of your food dollar and your calories.

## **Your Guide to Wise Dieting**

Remember a good reducing diet must:

1. Supply fewer calories than your body uses;
2. Supply the essential nutrients to safeguard health;
3. Be tailored to fit individual needs so foods allowed meet social, economic and psychological needs; and
4. Contain a wide variety of foods to ensure a well-balanced diet that meets your body's needs.

**Penny Ross**

*Extension Food and Nutrition Specialist*

**DESIRABLE WEIGHTS FOR MEN AND WOMEN  
AGES 25 AND OVER**

<b>Height (shoes with 1" heels)</b>		<b>Weight in Indoor Clothing</b>		
		<b>Small Frame</b>	<b>Medium Frame</b>	<b>Large Frame</b>
<b>WOMEN</b>				
<u>Feet</u>	<u>Inches</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
4	10	102-111	109-121	118-131
4	11	103-113	111-123	120-134
5	0	104-115	113-126	122-137
5	1	106-118	115-129	125-140
5	2	108-121	118-132	128-143
5	3	111-124	121-135	131-147
5	4	114-127	124-138	134-151
5	5	117-130	127-141	137-155
5	6	120-133	130-144	140-159
5	7	123-136	133-147	143-163
5	8	126-139	136-150	146-167
5	9	129-142	139-153	149-170
5	10	132-145	142-156	152-173
5	11	135-148	145-159	155-176
6	0	138-151	148-162	158-179
<b>MEN</b>				
<u>Feet</u>	<u>Inches</u>	<u>Pounds</u>	<u>Pounds</u>	<u>Pounds</u>
5	2	128-134	131-141	138-150
5	3	130-136	133-143	140-153
5	4	132-138	135-145	142-156
5	5	134-140	137-148	144-160
5	6	136-142	139-151	146-164
5	7	138-145	142-154	149-168
5	8	140-148	145-157	152-172
5	9	142-151	148-160	155-176
5	10	144-154	151-163	158-180
5	11	146-157	154-166	161-184
6	0	149-160	157-170	164-188
6	1	152-164	160-174	168-192
6	2	155-168	164-178	172-197
6	3	158-172	167-182	176-202
6	4	162-176	171-187	181-207

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