



## Modified Calories/Weight Reduction Diets

### General Description

The modified calorie/weight reduction diet reduces calorie intake below maintenance energy requirements to promote the loss of excess fat stores. Weight reduction diets are used as part of a weight management plan, with the goal of “achieving the best weight possible in the context of overall health”.

In all cases, weight reduction diets:

- provide adequate protein and calories to maintain lean muscle mass while promoting the loss of adipose tissue.
- provide adequate calories for normal growth and development for children and adolescents.
- improve overall health through optimal nutrition.

### Indications for Use

Obesity is the accumulation of excess body fat. There is convincing evidence that excess body fat promotes diabetes, cardiovascular disease, hypertension, and some forms of cancer. Obesity may also aggravate existing conditions such as osteoarthritis and pulmonary disease. Weight reduction diets can decrease morbidity and mortality associated with obesity by promoting optimal lipid levels, helping to achieve and maintain near-normal blood glucose levels, reducing blood pressure to normal levels, and reducing stress on weight bearing joints.

Weight alone does not confirm obesity because it includes the weight of skeletal muscle, skeleton, viscera and remaining tissues as well as body fat. Body Mass Index (BMI), weight in kilograms (kg) divided by the square of height (in meters), is considered a better tool for assessing fat status of body weight than weight alone. BMIs are routinely used at NIH to assess the need for weight management.

Generally, weight management may be indicated for individuals who are moderately and severely overweight. This includes adults with a BMI greater than 25, and children and adolescents whose BMI exceeds the 85th percentile.

While 25% to 40% of adult Americans are “dieting” at any one time, the 1990 NIH Conference on “Voluntary Methods of Weight Loss” concluded that many people regain any weight loss within 5 years. Nevertheless, significant health risks associated with obesity support occasions for weight management in a research setting.

Weight management in a research setting is appropriate:

- to prevent weight gain associated with a research protocol
- when weight loss is a requirement for protocol participation

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- when weight loss is an integral part of protocol treatment
- to support non-protocol weight loss efforts of patients participating in research protocols.

Pregnant women, individuals who are underweight or at appropriate weight, individuals participating in high-risk research protocols, and peri-operative patients should not follow a weight reduction diet.

### Nutritional Adequacy

In comparison to the Recommended Dietary Allowances, diets restricted to less than 1200 calories may be deficient in calcium and iron for premenopausal females, and calcium, niacin, thiamin, riboflavin, and vitamin A for males. Multivitamin and mineral supplements providing no more than 100% of Daily Values may be appropriate for persons following diets of 1200 calories or less.

### Medical Nutrition Therapy

Successful weight management requires long-term commitment to a healthy lifestyle. A quality weight management program:

- advises a low fat eating plan with an adequate variety of foods, according to the guidelines of the Food Guide Pyramid, to provide all of the Daily Values for vitamins and minerals, and the recommended dietary allowance for protein.
- promotes gradual weight loss of 1/2 pound (0.25 kg) to 1 pound (.5 kg) per week, unless otherwise medically indicated.
- fits the patient's lifestyle.
- considers the need for behavioral modification.
- provides guidelines for a reasonable exercise plan.
- plans for weight maintenance.

The clinical dietitian, after evaluating the needs and goals of weight management in a research setting, will determine the appropriate inpatient dietary approach. Options used are similar to those used for diabetes management, including:

- Menu approaches—providing daily menus based upon the Food Guide Pyramid that a patient can follow in a rote manner. (see “Healthy Diet” section)
- Counting approaches—identifying a specific procedure for counting calories, fat, and/or refined carbohydrate foods. (see “Low Fat Diet” section)
- Exchange list approaches—providing a meal plan using nutrient-based groupings of foods, or exchanges.

When protocol or health needs require more rapid weight loss than 0.25-0.5 kg/week, the dietitian is more likely to recommend a specific meal pattern based upon the diabetic exchange system.

The dietitian will determine which approach is most appropriate for the patient. The meal plan will then be individualized, and counseling provided as indicated.

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### Guidelines

*The physician needs only to order a weight reduction diet.* The dietitian will complete a nutrition assessment and develop an individualized care plan within 24 to 48 hours following receipt of the diet order/consult. The most appropriate approach to weight loss will be determined, and the meal plan will then be instituted based on the treatment goals.

Until the dietitian is able to complete the nutrition assessment and determine the most appropriate approach to meet the designated weight goal, the following default calorie levels (based on RDA estimates reflecting age and gender differences) will be used:

### Weight Loss (Calories)

<b>Children</b>	
1-3 years	Calorie Restriction not Appropriate for this Age Group
4-6 years	1500
7-9 years	1500
<b>Women</b>	
10 years	1500
<b>Men</b>	
10-50 years	2000
>50 years	1800

- Calories for default diets will be distributed among three meals and an evening snack, and will be based on the food exchange system.
- See the section on modified diets for diabetes management for sample exchange system meal patterns and meal plans.
- See the section on the low fat diet for sample low fat meal plans.
- See the section on the “healthy diet” for sample meal plans based on the Food Guide Pyramid.

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### Suggested Meal Plan

Breakfast	Lunch	Dinner	HS
<b>1500 CALORIES</b>			
1 Serving Fruit/Juice	2-3 oz. Meat	2-3 oz. Meat	3 Graham Crackers
1 Slice Toast	1 Serving Potato or Sub	1 Serving Potato or Sub	1 cup Skim Milk
1 Serving Egg or Sub	1 Serving Bread	1 Serving Bread	
1 Serving Margarine	Vegetables	Vegetables	
1 cup Skim Milk	Salad/Nonfat Dressing	Salad/Nonfat Dressing	
Coffee/Tea	2 Servings Fruit	1 Serving Fruit	
	1 Serving Margarine	2 Servings Margarine	
	Coffee/Tea	Coffee/Tea	
<b>1800 CALORIES</b>			
1 Serving Fruit/Juice	2-3 oz. Meat	2-3 oz. Meat	1 oz. Meat
1 Slice Toast	1 Serving Potato or Sub	1 Serving Potato or Sub	1 Slice Bread
1 Serving Egg or Sub	1 Serving Bread	1 Serving Bread	1 Serving Lite Mayo
1 Serving Cereal	Vegetables	Vegetables	1 cup Skim Milk
1 Serving Margarine	Salad/Nonfat Dressing	Salad/Nonfat Dressing	
1 cup Skim Milk	2 Servings Fruit/Juice	2 Serving Fruit	
Coffee/Tea	1 Serving Margarine	2 Servings Margarine	
	Coffee/Tea	Coffee/Tea	
<b>2000 CALORIES</b>			
1 Serving Fruit/Juice	2-3 oz. Meat	2-3 oz. Meat	1 oz. Meat
1 Slice Toast	1 Serving Potato or Sub	2 Servings Potato or Sub	1 Slice Bread
1 Serving Egg or Sub	1 Serving Bread	1 Serving Bread	1 Serving Lite Mayo
1 Serving Cereal	Vegetables	Vegetables	Nonalcoholic Beverage
1 Serving Margarine	Salad/Nonfat Dressing	Salad/Nonfat Dressing	
1 cup Skim Milk	2 Servings Fruit/Juice	1 Serving Fruit/Juice	
Coffee/Tea	1 Serving Margarine	2 Servings Margarine	
	1 cup Skim Milk	Coffee/Tea	
	Coffee/Tea		