



Planning adequate daily meals appropriate for family use  
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**Abstract:**

In this study, twelve daily meal plans were prepared as a means of interpreting the daily nutritional allowances for normal men, women, and children, adopted and recommended by the Rational Research Council in 1941. The daily dietary allowance for the moderately active man, weighing seventy kilograms, was selected as a working basis for each daily meal plan.

The food materials used in developing these meal plans were selected on their nutritional merits, and were those available locally. The different menus included a wide variety of foods to serve as suggestions for meal combinations appropriate for family use. Meal costs were calculated using the food prices current October 1, 1941.

In addition, the meals were planned to meet definite high standards for palatability and attractiveness. Acceptable food management principles were also employed by considering the economy of time, energy and fuel, during food preparation.



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## PLANNING ADEQUATE DAILY MEALS

### APPROPRIATE FOR FAMILY USE

#### Introduction

The realization even by scientists that every human being requires a daily intake of certain basic nutrients has been slow in its development. Through a long period of investigation, extending over two hundred years, scientific workers have gradually demonstrated that the human body must be consistently supplied with certain nutrients,-- energy-producing foods, protein, minerals and vitamins, so that it may grow normally, function properly, and carry on processes of repair. As a result, people in general have begun to appreciate that some relationship exists between the intake of proper food and good health.

In the past decade, while the recognition of the importance of minerals and vitamins was growing rapidly, there also developed a demand for some definite information regarding the amounts of these and other nutrients that are required by individuals. It was not until 1941 that the Committee on Foods and Nutrition of the National Research Council prepared and released to the public a table of quantitative allowances for the specific nutrients recommended for daily dietaries (see table I). The varied personnel of the committee representing a wide range of background and experience gave a balanced perspective for setting up this "Yardstick of Nutrition" (49). In preparing these tentative allowances, literature representing the most authoritative sources was appraised, and judgments as to the various nutritive requirements were solicited from a considerable number of leaders in the fields of medicine, physiology, biological chemistry, and nutrition.



TABLE I.--CHART OF RECOMMENDED DAILY ALLOWANCES FOR SPECIFIC NUTRIENTS  
Committee on Foods and Nutrition, National Research Council

	Calories	Protein	Calcium	Iron	Vit. A	Thiamin* (B <sub>1</sub> )	Ascorbic Acid** (C)	Riboflavin***	Nicotinic Acid	Vit. D
		gm.	gm.	mg.	I.U.	mg.	mg.	mg.	mg.	I.U.
Man (150 lb.)										
Moderately active	3000	70	0.8	12	5000	1.8	75	2.7	18	****
Very active	4500					2.3		3.3	23	
Sedentary	2500					1.5		2.2	15	
Woman (125 lb.)										
Moderately active	2500	60	0.8	12	5000	1.5	70	2.2	15	****
Very active	3000					1.8		2.7	18	
Sedentary	2100					1.2		1.8	12	
Pregnancy (latter half)	2500	85	1.5	15	6000	1.8	100	2.5	18	400-800
Lactation	3000	100	2.0		8000	2.3	150	3.0	23	400-800
Children up to 12 years										
Under 1 year	100/kg.	3-4/kg.	1.0	6	1500	0.4	30	0.6	4	400-800
1 - 3 years	1200	40	1.0	7	2000	0.6	35	0.9	6	
4 - 6 years	1600	50	1.0	8	2500	0.8	50	1.2	8	
7 - 9 years	2000	60	1.0	10	3500	1.0	60	1.5	10	****
10 - 12 years	2500	70	1.0	12	4500	1.2	75	1.8	12	
Children over 12 years										
Girls -- 13 - 15 years	2800	80	1.3	15	5000	1.4	80	2.0	14	****
16 - 20 years	2400	75	1.0	15	5000	1.2	80	1.8	12	
Boys -- 13 - 15 years	3200	85	1.4	15	5000	1.6	90	2.4	16	****
16 - 20 years	3800	100	1.4	15	6000	2.0	100	3.0	20	

\* One milligram thiamin equals 333 International Units.

\*\* One milligram ascorbic acid equals 20 International Units.

\*\*\* One milligram riboflavin equals 300 S-B Units.

\*\*\*\* Older children and adults probably need as much Vitamin D as the minimal amounts recommended for infants.

This chart of dietary recommendations suggests a caloric intake for individuals of varied age, sex, type of activity, and bodily condition, and a protein allowance of about one gram for every two pounds of body weight. The amounts of calcium, phosphorus and iron allotted to each person permit a reasonable margin of safety to take care of individual differences. The levels of intake recommended for the various vitamins are placed at figures high enough to provide for normal growth, repair, and regulatory functions. The Committee's aim was to approve allowances for the nutrients that would insure adequate nutrition and prevent such deficiency diseases as scurvy, due to lack of ascorbic acid; tetany, resulting from hypocalcemia; anemia, from iron deficiency; night blindness, from a lack of vitamin A; and other conditions having a nutritional background. While some of the recommended allowances may be changed as more information becomes available, the chart, in its present form, is extremely valuable in practical nutrition work.

However, the data supplied in this chart, or "Yardstick of Nutrition", are much too technical to be understood by the average homemaker for whose ultimate use these figures were intended. Calories of energy, grams of protein and minerals, units of vitamins, must be converted into practical terms, usable by the lay person. They must be interpreted as foods, combinations of foods that constitute meals, and groups of meals that make up days' dietaries. The average individual knows very little about food composition, and must depend upon trained nutritionists to assist in this interpretation. In commenting upon the situation, Dr. Lydia Roberts of the University of Chicago has pointed out, "There are many combinations of

foods which will meet these new requirements. America is fortunate today that it has a large number of trained nutritionists who can translate these allowances into terms of foods available and practical in many parts of the country".

Therefore, this study has been carried on to translate the technical information found in the "Recommended Daily Dietary Allowances", prepared for nation-wide guidance, into practical plans for adequate meals, appropriate for family use. There will be presented a series of meal plans covering a period of twelve days. Each day's menus will contain the recommended allowances for specific nutrients, and will be made up of foods locally available at reasonable current prices. In general, the plans will be in harmony with conditions of ordinary family living.

#### HISTORY

The earliest attention to nutritional problems was concerned with the energy-producing value of food. As long ago as 1780, Lavoisier, a member of the French Academy of Science, seemed to grasp the idea that body heat was derived, in the process of metabolism, through slow combustion resulting from the action of oxygen on ingested foods and body tissues. However, about the middle of the nineteenth century, Liebig (34) in Germany, was the first to understand clearly that the substances oxidized in the body are organic compounds of three types: protein, fat, and carbohydrate. The figures finally reported by Rubner (38) in 1902 as representing the fuel values of food constituents are as follows:

1 gram carbohydrate supplies 4 Calories

1 gram fat supplies 9 Calories





















































































































