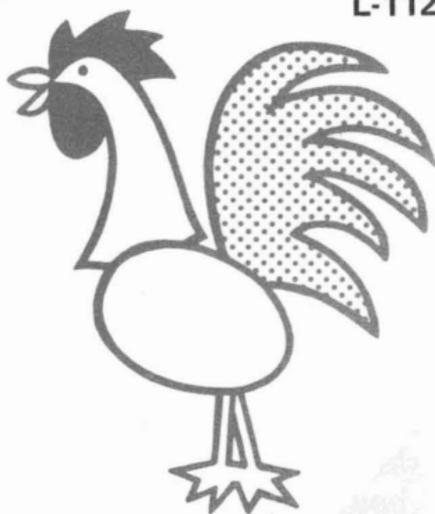


About Eggs...



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EGGS IN THE DIET

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EGGS IN THE DIET

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NUTRIENTS IN EGGS

Eggs are a highly nutritious food containing high quality protein. Needed for growth and repair of body tissue, protein is used by every cell of the body. As a child grows, protein helps build his muscles. Adults need protein to repair muscle and other tissues.

Eggs are rich in iron needed by all cells, especially red blood cells. Red blood cells carry oxygen from the air you breathe through the blood vessels to all cells of the body. Eggs are also rich in phosphorus, an essential constituent of bones and teeth, and contain other minerals needed in small amounts.

Eggs are rich in vitamin A which is needed for growth, seeing in the dark and preventing infection by keeping linings of the mouth and digestive system in good condition. Essential to proper bone and teeth formation, vitamin D is provided by eggs. A source of B vitamins, eggs help cells use energy from food, keep nerves and skin in good condition and promote good appetite and digestion. Eggs contain vitamin E which helps prevent oxidation of certain needed fatty acids and protects vitamin A from destruction by oxidation. Eggs also contain other vitamins needed in small amounts.

Cholesterol, a fat-like material, is found in egg yolks. A normal body constituent, cholesterol is produced by the liver and is found in the brain, nervous tissue, adrenal cortex and other body cells and fluid. Cholesterol has several body functions, including hormone production and vitamin D and bile acids formation.

Atherosclerosis, characterized by the thickening and loss of elasticity of arterial walls, is associated with dietary cholesterol. Persons with inherited high-blood cholesterol need to reduce their cholesterol intake to prevent atherosclerosis, but persons with normal cholesterol levels do not. Other

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factors—such as hypertension, stress, behavioral patterns, overeating, lack of exercise, smoking and unbalanced diets—may contribute to atherosclerosis development. There is no reason for most people to severely restrict their dietary intake of foods containing cholesterol. Excessive eating of any one food may lead to nutritional imbalance.

EGGS IN AN ADEQUATE DIET

Eggs are one of many foods that contribute to a well-balanced diet. Use the Daily Food Guide to plan an adequate diet.



Eggs add color as well as nutritional value to this salad.

Meat Group

The meat group includes eggs, poultry, meats, fish and meat alternates, including peanut butter, nuts, dry beans and peas. Two or more daily servings are recommended. A serving consists of 2 to 3 ounces of lean meat, fish or poultry; two eggs; 1 cup cooked dry beans or peas; or 4 tablespoons of peanut butter.

Milk Group

Fluid whole, evaporated, skim and dry milk, buttermilk, cheese and ice cream are included in the milk group. Recommended amounts are 2 to 3 cups

for children under nine, 3 cups or more for children nine to twelve, 4 cups or more for teenagers, 2 cups or more for adults and 3 cups or more for pregnant women. Cheese and ice cream may replace some of the milk.

Fruit and Vegetable Group

All fruits and vegetables are included in the fruit and vegetable group. The Daily Food Guide recommends 4 or more daily servings, including one good source of vitamin C daily and one good source of vitamin A every other day. A serving consists of $\frac{1}{2}$ cup fruit or vegetable, one medium fruit or potato or a half grapefruit or cantaloupe.

Bread and Cereal Group

All whole-grain, enriched or restored breads and cereals are included in the bread and cereal group. Four or more daily servings are recommended. A serving consists of one slice of bread, 1 ounce of ready-to-eat cereal, $\frac{1}{2}$ to $\frac{3}{4}$ cup cooked cereal, cornmeal, grits, macaroni, noodles, rice or spaghetti.

Food variety is the key to good nutrition. No single food contains all the nutrients needed daily. Working together, the four food groups can provide nutritionally balanced meals.

EGGS FOR ALL FAMILY MEMBERS

Persons of all ages eat eggs for their high nutritive value. Egg yolks, one of the first solid foods recommended for infants, have a high iron content. Eggs are excellent in providing protein and energy for children and teenagers extra needs during rapid growth periods. Eggs also are important to adults for nutritive value, convenience and economy.

Eggs prepared without fat are popular for weight watchers. High in protein and other nutrients, eggs are low in calories. Eggs often are recommended for persons on soft or bland diets. Used in custards, eggs help provide nutrients for convalescents and others with high nutrient requirements.

USES FOR EGGS

Eggs may be scrambled, fried, poached, cooked in the shell, baked or made into omelets. Eggs should always be cooked at moderate-to-low temperatures. Combined with proper timing, low temperatures should assure uniformly tender, attractive egg dishes. High temperatures and long cooking periods cause egg

proteins to shrink and result in a loss of moisture and tough, rubbery textures.

Eggs serve several functions in food preparation.

Leavening

The cellular structure of some cakes (angel food, sponge) results largely from the ability of egg whites to form a foam when beaten. Baking expands air bubbles, coagulates egg protein and helps set dough in a state of permanent lightness.

Emulsifying

One of the most interesting properties of eggs is the ability to emulsify or cause a liquid to mix with a fat. This emulsifying property is used as a basis for making mayonnaise and salad dressing.

Thickening

Egg protein coagulates during heating and causes thickening as needed in baked and soft custards, cream filling and sauces.

Retarding crystallization

Egg whites reduce the size of sugar crystals and prevents their growth after candy is made. Egg whites act as a protective colloid to prevent crystallization. Eggs are used in marshmallows for smoothness and whiteness.

Clarifying

Egg whites can absorb particles that cloud soups and coffee. This clarifying ability causes many experienced cooks to use egg whites to clear broths and boiled coffee.

Binding

Eggs exert a binding action in cakes, meat and croquettes.

Coating

Whole eggs may be used to coat meats and vegetables for breading. A brush of egg white may be used to coat certain breads and cookies for a shiny brown finish.

REFERENCES

Proudfit-Robinson's Normal and Therapeutic Nutrition by Corinne H. Robinson, The McMillan Company, 866 Third Avenue, New York, New York 10011, 1967.

Nutrition and Physical Fitness, by L. Jean Bogert, George M. Briggs, Doris Howes Calloway, W. B. Sanders Company, Philadelphia, Pennsylvania, 1973.

"A Role for Cholesterol, But Nonparticipation of Saturated Fat, in the Control of Serum Cholesterol Concentration," by Dr. Raymond Reiser, Texas A&M University, College Station, Texas. Paper presented at the Medical Dietetic Symposium, March 29, 1973, Tucson, Arizona.

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