

Composition of Egg and Use for Human Being Health Benefit

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Egg components include the shell and the membrane of the shell (ten percent); albumen or white (60 percent), including thick albumen, small outer albumen, small inner albumen, and chalazae; and yolk (30 percent). In a fertilized egg, the yolk provides nutrients and albumen provides the water needed for fetal growth. In addition, the layers of albumen act as a pillow to protect the foetus from jarring movements, while the chalazae help maintain the shape of the embryo inside the egg. Eggs are made mainly of water, protein, fat and minerals. Eggs are a variety of foods that are prepared as a stand-alone dish, or combined with other ingredients to make sauces, custards, batter and foam.

Whole egg is a source of high quality protein (that is, protein that contains all the amino acids needed in human diet). In addition, it is an excellent source of all vitamins (except vitamin C) and contains many essential minerals, including phosphorus and zinc. All fats, or lipids, and cholesterol are found in the yolk. The yolk lipids are high in unsaturated fatty acids, with an average of 2 to 1 saturated fatty acids. By influencing the hen's diet, some analysts are able to sell shell eggs in high concentrations of unsaturated fatty acids to saturated fat. . Special emphasis is placed on increasing omega-3 fatty acids with less omega-3 supplementation by adding fish oil to poultry diet. Omega-3 fatty acids have been shown to play a key role in normal growth and development and in preventing many diseases. Eggs are one of the most nutritious and flexible foods in the kitchen provided on their own, used as an ingredient in many dishes from soups to desserts. It provides texture, structure, taste and moisture as well as nutrients. The egg is made up of Shell, Membrane, and Air cell, Egg White, Egg Yolk and Chaza. Egg white makes up 2 / 3rd of whole egg and yolk makes up 1/ 3rd.



Shell

- The shell is our outer cover of egg, white or brown.
- It is a solid outer layer of egg and composed of Calcium, Magnesium carbonate and Calcium phosphate.
- The shell forms an egg and holds the contents.
- The shell contains thousands of holes that allow CO₂ and moisture to escape, as well as air to enter.
- The shell is covered with cuticle or bloom and should not be washed.
- The bloom acts as a protective covering that closes the pores and prevents moisture loss and bacterial contamination.
- If the eggs are washed before going to market, the cuticle is removed.
- To protect the egg, the scrambled eggs are covered with a thin film of edible fat.
- The colour of the shell has no effect on the quality, cooking properties or nutritional value of the egg, the colour of the shell is usually determined by the type of chicken.

Membrane

- The membranes line the shell and form an air cell at the end of the egg.
- Mother Nature has worked very hard to create the right package for egg content.
- Beneath the shell, there are two non-permeable membranes - the outside and the inside.
- These layers act as a protective layer in the event of a shell cracking.

Wind cell

- On one side of the egg (wide), both of these holes separate to form an air cell.
- This is formed by reaching the content as soon as the egg is laid, due to the temperature difference outside.

Egg White

- It contains 1/8 of the protein, called albumin; the rest is water.
- Egg white consists of three components - thin outer albumen, thick middle albumin and thinner inner albumin.
- White is clear and melts when green and white and solid when thick.
- Egg white albumin is named after chefs for their ability to hold their breath when beaten.

Egg Yolk

- The caterpillar is a fertilized egg yolk, yellow in colour.
- The yolk is separated from the white by a membrane called the vitelline membrane.
- This membrane prevents the mixing of both yolk and white. 1/6 portion of egg yolk contains protein, 1/3 fat and residual water, Vitamins and minerals such as Calcium, Phosphorus, Iron etc.
- The yolk is trapped inside the egg by the Chazae and these are the two white strands present when the egg breaks.
- The yolk is high in fat and protein and contains iron.
- Large yolk contains 59 calories.
- The yolk is very important because of the richness and texture it provides for both baking and baking.

Chalaza

- The egg is stored in the centre of the egg with the help of an egg.
- It is as thick as it looks and is made up of proteins.
- This chord-like structure may need to be filtered while making custards.
- The function of the chalazae is to hold the lizzard in place.
- In baking, chalazae are sometimes removed to ensure uniform texture.

Benefits of Eggs in Human Being

- Chicken eggs contain high levels of antibodies such as IgY which can cure human rotavirus, Escherichia coli, and streptococcus, pseudomonas, staphylococcus and salmonella infections.
- With a balanced diet, high egg biology is an excellent growth promoter for children. It is an excellent natural nutritional support for recovering sufferers, especially those with tuberculosis or AIDS-related illnesses. Lipoprotein and other proteins with a high biological value in the egg act as excellent growth promoters in children and animals.
- Egg albumen can be used as a remedy in cases, where certain toxins and irritants may be accidentally eaten. It protects the mucous membranes of the stomach and intestines, and prevents the formation of ulcers.
- A study conducted at Kyoto University in Japan revealed that the egg contains two components — Lumiflavin and Lumichrome. These two substances, along with sulphoraphane, have the ability to inhibit the replication of cancer-causing bacteria and to inhibit the transformation of normal cancer cells. These compounds are also natural antioxidants.
- G1-globulin lysozyme, G2 and G3-globulins, ovomacroglobulin, antibody "IgY" and other natural antimicrobials and immunostimulants in the egg may prolong the lives of those with AIDS, not just because of their high nutrition but also because. Their antimicrobial properties.
- Egg yolk and albumin chalaza are rich sources of "sialic acid," with strong antimicrobial, anti-inflammatory and antiviral properties, and are therefore used to treat Helicobacter pylori and other minor infections caused by ulcers, colon cancer, gastritis and enteritis.

References

1. Mann G. V., Pearson G., Gordon T., Dawber T. R., Lyell L., Shurtleff D. (1962). Diet and cardiovascular disease in the Framingham study. 1. Measurement of dietary intake. *Journal of Clinical Nutrition*, 11:200–225. doi: 10.1093/ajcn/11.3.200.
2. Anitschkow N. On experimental cholesterin steatosis and its significance in the origin of some pathological processes. *Zentralblatt der Allegemeine Pathologie und Anatomie*. 1913;24:p. 1.
3. Shekelle R., Stamler J. (1989). Dietary cholesterol and ischaemic heart disease. *The Lancet*, 333(8648):1177–1179. doi: 10.1016/S0140-6736(89)92759-1.
4. Kushi L. H., Lew R. A., Stare F. J., et al. (1985). Diet and 20-Year Mortality from Coronary Heart Disease: The Ireland–Boston Diet–Heart Study. *The New England Journal of Medicine*, 312(13):811–818. doi: 10.1056/NEJM198503283121302.
5. American Heart Association. The National Diet-Heart Study. American Heart Association; 1968.