

# The Great Value of Meat in the Diet

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Meat is a very valuable article in our diet. It possesses high nutritive value, great palatability, pleasing odor, and attractive appearance. Having all these qualities it contributes in large measure to our bodily welfare and to our happiness, since we eat for two reasons: because we must be nourished and because we enjoy eating. It is not strange, therefore, that for generations and generations men have considered meat an essential part of the diet, and that to most of us a day's food seems incomplete without it. Many of the excellent qualities of meat require no other proof than our own senses.

There is no flavor that will take the place of a meat flavor. Not only has meat a flavor of its own but it has the power to impart its highly palatable flavor to other foods. It gives the appetizing taste to the scalloped dish, the hash, the stew, or the time-honored bread and gravy.

Meat has a strong appeal to our sense of smell. Who knows an odor more tantalizing at the hour of eleven-thirty, or five-forty-five than that of beefsteak, roast pork, sausage, or fried chicken?

For the eye, also, there is great attraction in any well-cooked meat. Too much cannot be said about the appearance of a well-browned crusty roast of beef, or its attractive slice shading from the brown crust through paler shades to the grayish pink within. The slice of country ham with its mingling of rose and white, the platter of well browned chops, the roast chicken, turkey or goose, are sights that appeal to us all.

The nutritive qualities of meat, however, constitute its chief value to the human race. The most important reason for eating meat is because it supplies elements that our bodies require for heat and energy, for building material and for regulating substances. It supplies fat and protein for fuel, protein for tissue building, phosphorus and iron to regulate vital processes, as well as vitamins and extractives for their important functions.

Meat, moreover, is easily and thoroughly digested. If it has ill effects, these are due to a lack of balance in the diet and may be avoided by a normal use of fruits and vegetables.

### WHAT OUR BODIES NEED

Our bodies have three distinct needs for food.

1. Fuel is needed to keep the body warm and to enable it to do its work. We know it takes fuel to keep our houses at a temperature of 68° to 70°. It also takes fuel to maintain a body temperature of 98.6°. Energy (or fuel) is necessary for all body activities, for the proper action of the heart, lungs and digestive tract as well as for muscular exercise. Our human machines cannot run without a fuel supply.

2. Building material is needed for our various body tissues. Muscles, bones, nerves, glands must be kept in proper repair. They may even need to grow in size. The child's body, especially, needs much building material for growth. No good machine can be made without the right materials, nor can it endure without repairs.

3. Regulating substances are needed for the proper action of the heart, the digestive tract and the blood. Without them food and building material could not be properly used, nor wastes properly eliminated. The human body, like any other machine, needs regulating.

### FOODS THAT SUPPLY OUR NEEDS

What kinds of food supply to the body these needs?

1. The need for fuel is supplied by fats, starches, sugars and proteins. A pound of fat will give two and one-fourth times as much energy as a pound of sugar or a pound of starch. Foods high in fat have therefore a high energy value. When we use the now common word "Calorie," we are talking about the energy or fuel value of a food.

2. The need for building material, or tissue material, is supplied by water, minerals of various kinds, and by certain nitrogen-containing foods called proteins. Every farmer knows that nitrogen is one of the chemical elements which neither his stock nor his crop can do without. The same is true with the human body. Nitrogen is absolutely essential for the building and repairing of the body tissues and can be obtained by the body only from proteins.

3. For proper regulating, for health, and for growth, in addition to fats, carbohydrates, protein and water, minerals and vitamins are needed.

Minerals, besides being essential for the hard bony tissues, and the soft tissues, as muscles, blood cells, etc., are necessary because of their regulating power. They give\* to the body fluids their influence upon

\*Sherman, Henry C., Chemistry of Food and Nutrition, 3d Edition, page 267.

the elasticity and irritability of muscle and nerve. They supply the material necessary for the acidity and alkalinity of the digestive juices and other secretions. They enable the internal fluids to maintain their proper neutrality or slight alkalinity, their proper osmotic pressure and solvent power.

Vitamins still have much of the unknown and elusive about them. We have not as yet found out much about their chemical nature, but we are almost daily learning more of their occurrence and more of their action in the human body.

### THE FOOD VALUE OF MEAT

What is the food value of meat? Does it satisfy the body needs? Does it furnish energy? Does it build tissue? Does it regulate body functions? Or, in other words, does it contain carbohydrates, fats, protein, water, minerals and vitamins? Is it free from injurious effects? Can it be easily digested?

**Meat as Fuel.**—Meat contains practically no carbohydrate, but nevertheless it furnishes a large number of calories because of its high fat and protein content. If the fat is eaten, and it is a wholesome easily digested fat, meat may be considered fairly high in calories. For example, in a pound of steak consisting of fourteen ounces of clear lean and two ounces of clear fat, at least half of the total fuel value is in the fat.

**Meat as Building Material.**—The protein of meat furnishes calories, the same number per weight as do starches and sugars, but its more important function is as a tissue builder. Body protein is not just like any other protein. In fact no two proteins are exactly alike because no two proteins are made up of the same amino acids in the same proportion and in the same arrangement. Meat, however, is among our superior sources of protein. It contains a large proportion of the amino acids essential for body building. Meat therefore is valuable not only because it contains nitrogen, but because it contains nitrogen in proper combination with other elements.

So far as we know there is little difference in the protein of various kinds of meat, or in the different cuts of meat. The cheap cuts furnish as good building material as do the more expensive cuts.

**Meat as a Source of Minerals.**—Many minerals are needed in the body either as building material or as regulators. Meat is especially high in two of these minerals, phosphorus and iron.

Phosphorus is a necessary constituent of the nucleus of all cells, and is especially important in the skeleton, glandular tissue, and the nervous system, and it is necessary to maintain proper alkalinity. Meat is a most excellent source of phosphorus. Nuts, dried beans, egg yolk and whole

cereals are the only foods which surpass it. One average serving of meat may give as much as one-eighth of the daily adult requirement of phosphorus.

Iron is essential to the blood. Without it oxygen cannot be carried properly through the blood stream; hence the food cannot be properly oxidized (or burned) and the whole matter of energy production is greatly disturbed. Meat is high in iron. Other foods rich in iron are egg yolk, dried fruits, and some vegetables. One average serving of meat may give one-sixth or more of the daily adult requirement of iron.

**Meat as a Source of Vitamins.**—Meat contains at least three vitamins. Unlike the other nutritive factors, the various cuts of meat differ greatly in their vitamin content. The organs of the animal, liver, heart, etc., are much higher in vitamins than is the muscular tissue.

**The Meat Extractives.**—Inside the muscle fibers of meat there are substances known as meat extractives. They have no fuel value and little food value except as they impart flavor and act as a stimulant to the secretion of the digestive juices in the stomach. This stimulation is often of value. There are, however, some slightly abnormal conditions under which these extractives should be avoided. Meat broths are valuable because of these extractives, and not for fuel or even for protein, a large part of which is left behind in the meat, tasteless as it may be. Various kinds and cuts of meat vary slightly in the amounts of these extractives present, but the methods of cooking determine whether the extractives be left in the meat or cooked out into the broth or gravy.

### MEAT IS NOT A CAUSE OF CONSTIPATION

In cases of constipation meat is often taboo. This is not because meat causes constipation but because, if the intestines do become clogged, the accumulation of meat may cause more trouble than an accumulation of other kinds of food. The elimination of body wastes should be properly carried out through the habitual use of a well balanced diet, high in vegetables and fruits.

### THE DIGESTIBILITY OF MEAT

Meat is, as a rule, thoroughly and easily digested, although not so rapidly as some other foods. The difficulties sometimes experienced in the digestion of pork are probably due to the larger fat content of the pork. This means that it may stay longer in the stomach than other meats. It also means that an excessive number of calories may be thus eaten.