

ON THE USE OF MEAT DERIVATIVES IN THE SICKROOM.

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In the days of our grandmothers any form of meat extract was apt to enjoy a very undeserved popularity, and there was none to which a false value was attached in greater degree than that ascribed to beef tea. The belief in its efficacy as an article of diet for the sickroom was indeed responsible for the wastage of tons of good meat throughout the year, and largely this was due to ignorance as to the proper means to be used in its preparation. Looking back on the early years of our nursing work, some of us cannot but realise that we might often just as well have given to our patients the water in which eggs had been boiled as the beef tea that frequently found its way into the sickroom and even into the hospital wards.

Our object in making beef tea or any other form of meat extract should be to draw out as much as possible and to bring into solution its soluble constituents, as well as extractives and mineral salts. It is much more easy to withdraw these last than the proteins of meat, but unless the proteins are present in beef tea it can in no wise rank as a food. Any knowledge of food chemistry will at last lead one to realise that to bring beef, from which beef tea is being prepared, quickly to boiling point or nearly so, is simply so to coagulate all its proteins so that they remain in the meat and do not pass into the tea; then the patient simply drinks hot water varied by the pleasing flavour of escaped extractives, and is perhaps stimulated, but as he would be by any hot drink. At best, beef tea has but little food value, but when well made it is useful, for it makes an acceptable change of food; the patient very often likes it, and it increases the desire for food, which is an important consideration in many cases. It tends to increase the flow of gastric juice and also stimulates digestive activity. Really good beef tea should contain about 1½ per cent. of easily digested protein, or perhaps a trifle more; the extractives are present in somewhat similar proportions, and it is those that give stimulus to the appetite. These proportions indicate that, if a person during sickness (when he is taking a minimum of food as a rule) had to rely upon beef tea alone, as an article of diet, he would require to consume about nine pints of it in a day; thus, even more than some other liquid foods, it is calculated to overload the body with water. Yet when it is used to supplement other and more concentrated liquid diet it proves a very useful item in the daily menu of the sickroom. Its coagulated protein is only difficult to digest when it is present in solid lumps rather than in particles; the digestive juices can very easily surround and penetrate the flaky protein present in well-made beef tea. In relation to some types of disease it is to be remembered that beef tea, like other extracts from meat, often puts a strain upon the kidneys, and, therefore, when a patient is suffering from some form of renal disease these are forbidden.

In preparing beef tea it is important to choose good, fresh, lean meat from which all gristle and fat has been trimmed away; the fat of meat is not suitable for invalid diet and this constituent can be supplied best in the form of cream or other easily digested food. When the

meat has thus been prepared use a blunt knife and tear it into shreds so that its fibres may be freed from the connective tissue in which they are embedded and may more easily give up their contents to solution. To cut the meat into small dice does not so well set free the proteins and flavouring materials in the meat. Next the shreds of meat are placed in a jar with cold water and thoroughly mixed with this. The proportion of water to the meat varies of course according to the strength of the beef tea required; but a pound of meat to a pint of water is a reasonable proportion. The mixture should be kept in a cool place for half an hour at least, to allow the soluble proteins, the mineral matter and extractives, to escape from the meat; sometimes a little salt is used with a view to accelerating this, but its efficacy in this respect is doubtful. Next the jar containing the mixture is tightly covered and placed in a saucepan with water surrounding it up to the height of its contents, the surrounding water is then very slowly heated up to a temperature of 167° F. For an hour it should not rise above this and occasionally the pieces of meat should be separated with two forks and pressed up against the sides of the jar. To take away the raw appearance of the tea, at the end of its preparation the water should be brought to boiling point for the space of a second. All this it is important to remember, for the albumen in meat is like the albumen in white of egg in the respect that it coagulates when placed under a strong temperature. The tea should be poured off the meat, but never strained, as in that case the most valuable part of it would be removed; afterwards the fragments of meat can be put into a coarse strainer and the juice pressed through this from the meat by means of a wooden spoon, the resulting liquid is then added to the tea. After allowing this to cool, all fat should be removed from its surface; it will be found that the beef tea consists of two layers—the lower flocculent, the latter clear; it is the former which contains any nourishment that the beef tea has, hence the necessity for stirring the tea before heating a supply for the patient. Sometimes he likes to have it cold, and very often beef tea makes a very useful vehicle for giving to the patient some extra nourishment, as when we add to it plasmon, lightly baked flour, or Robinson's Patent barley. There are, of course, a number of specially prepared beef teas on the market, some of which compare quite favourably with home-made beef tea. We knew one doctor who liked to prescribe Bovril in place of ordinary beef tea, because he regarded it as a greater stimulus to the appetite and the digestive activity, and more useful in allowing the addition to it of cereals or other forms of nourishment.

Raw meat juice is made by so scraping the surface of a piece of lean and very new meat as to obtain a fine pulp and what remains with the connective tissue of the meat is chopped finely and added to the pulp. Then the whole is stirred into four ounces of cold water to which 20 drops of dilute hydrochloric acid have been added; sometimes salt is used in place of the latter. The mixture is then put in a cool spot for three hours and then the juice is squeezed from the meat through muslin. An ounce of meat juice is given to the patient at intervals of about two hours in a coloured glass. There are many varieties of meat juice on the market and their composition varies according to their source

[previous page](#)

[next page](#)