

## Notes on Practical Nursing.

### THE DIETING OF PATIENTS.

#### LECTURES TO PROBATIONERS.

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#### IV.—EFFECT OF COOKING ON FOOD-STUFFS

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Meat should not be cooked whilst the flesh of the animal to be eaten is in the condition known as rigor mortis, otherwise it will be hard and indigestible. The familiar fact that fowls are, if cooked immediately after being killed, almost as tender as when kept until the stiffness has passed off holds good of all flesh used for human food.

The time after death when this condition takes place differs a good deal, as also does its continuance in different animals, the duration varying from about twenty-four hours to six days.

Of all the different processes employed to cook meat, "boiling" produces the most digestible result. This method, properly carried out, consists of plunging the joint into boiling water, the heat of which at once seals up the cut fibres and coagulates the albumins on the surface of the joint, thus forming a casing which allows none of the internal juices of the meat to escape. Seven minutes' exposure to the heat of boiling water is sufficient to ensure this; the pot should then be drawn to the side of the fire, so that the water may remain below boiling point until the cooking is complete. Sir Henry Thompson's experiments proved that in meat so treated the heat of the interior of the joint did not rise above 180° Fahr., and the albumins were not therefore overheated. If too great heat be employed the fibres will be hardened to such an extent that the digestive juices will be unable to produce any effect upon them or their contained albumin, which will be firmly coagulated and sealed up in them, whilst the dissolving of the connective tissue will bring about the appearance known as "meat boiled to rags."

Salt meat is an exception to the rule of plunging the joint into boiling water; it should be put into cold water and heated very gradually. Soft water should, if possible, be employed for boiling meat, but not for fish; it has greater solvent powers than hard water; but if the latter only can be obtained, boiling it for an hour or two beforehand will greatly soften it. Fish, on the other hand, should be boiled in hard water, preferably sea-water, in order that it may remain firm.

By reversing the process of boiling meat—i.e., putting it into cold water and gradually allowing its temperature to rise—a totally different result is obtained, viz.: the extraction of a great part of the uncoagulated albuminoids, extractives, salts, and

gelatine into the water, producing a broth or soup. If a soup be required, the contents of the pot are subjected to long boiling (after the slow extraction of the albuminoids, &c.), in order that as much of the connective tissue as possible may, as gelatine, be dissolved from the fibres, which will become hard and indigestible. The albuminoids in the soup will coagulate during the prolonged boiling.

A broth, on the other hand, must never boil, and its albuminoids not being coagulated are therefore more readily digested by sick persons than those in soup.

In both cases the fats dissolve, but rising to the surface, congeal when cold, and are thus easily all removed. Broths and soups should on this account never be served immediately after being made, but should always be allowed to grow cold first, otherwise it is impossible to free them from all grease.

The old-fashioned method of roasting meat before an open fire produces a very palatable, wholesome, and nutritious dish. As in boiling, the meat is first exposed to great heat in order to seal up its juices; it should then be drawn back from the fire so that the cooking may be completed under a rather lower temperature. Frequent basting with the melting fat prevents undue hardening of the outside and, together with the constantly revolving spit, brings about a very uniform heat on all sides of the joint.

A moment's reflection will show you that grilling is practically the same as roasting, and a totally different thing to frying meat, which we shall consider presently. Grilling simply consists of "roasting" over a clear mass of red-hot coal a piece of meat which is too small to cook before a fire, the meat being laid on bars and turned by the cook instead of being suspended from a revolving jack.

I am anxious to thoroughly impress upon your minds the difference between this process and that of cooking meat in fat (frying), for it is your duty to see in cases where a convalescent patient is ordered a grilled chop or steak that the same article fried is not substituted by the cook—a proceeding which if not detected may have serious consequences, as fried meat is most unsuitable for persons of weak digestions.

The same remarks apply with equal force to fish. Baking in ovens has almost altogether superseded roasting as far as meat is concerned in private houses. This is unfortunate, as the result is not nearly so good for invalids, as certain "volatile fatty acids" developed by the action of heat from the meat are not able to escape from the oven, hence the greasiness of baked meat as compared with that properly roasted.

Sir Henry Thompson (*Food and Feeding*) is eloquent in his denunciation of the English method of frying. This process, when properly performed, should be really boiling in oil at a temperature of 500° Fahr., and "produces results which are

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