

thereby. The disease is due mainly to two causes—an insufficiency of vitamin D in the food and a lack of sunlight to irradiate the ergosterol in the skin. Osteomalacia, in its early stages, is treated very much as a case of ordinary rickets would be. Cod-liver oil is administered, and perhaps irradiated ergosterol, and, under the influence of vitamin D and sunlight, the pain in the limbs, which is a feature of the disease, tends to pass off although the twisted limbs may not again become straight.

Vitamin D acts, as we have indicated, by controlling the absorption of calcium and phosphates from food as it passes through the intestine and by maintaining mineral substances at a proper level in the blood. Nevertheless, an excess of vitamin D can prove harmful by giving rise to too densely calcified bone and an excess of calcium in the circulatory system, spleen, liver, kidneys, etc. Activated ergosterol is sold under various names, but it should only be given in quantities prescribed by a medical man.

If one takes the usual mixed diet generally adopted by people in health one can, as a rule, rely upon this for an adequate allowance of vitamin D. The best means for securing this valuable vitamin is through the use of halibut or cod-liver oil, and it can also be procured from such fish as salmon, halibut, eels, herring, sprats, etc. Eggs, liver, cream, milk and butter are also useful articles of food from the vitamin point of view, and vitamin D can be obtained also from certain vegetables; these last, however, are to be relied upon to a very small extent for this particular vitamin. Most margarines are now specially irradiated and so can be used to replace butter. Fats which can be dispensed with, in so far as vitamin D is concerned (for they do not supply it) are lard, bacon fat, pork and olive oil. In summer time milk, cream and butter are richer in vitamin D than in winter; during that season the cows are at pasture and the ergosterol in the animals' skin is irradiated by the sunshine so that the vitamin thus produced passes through the milk. In winter, when the cows are kept indoors and are no longer influenced by the ultra-violet rays in direct sunlight, the milk, cream and butter may be almost entirely lacking in vitamin D. New Zealand and Australian butter always have a more constant percentage of vitamin D as the cows are regularly grazing in these countries. The effect of drying milk may or may not destroy its vitamin D content; it does not as a rule, and some milk powders are now specially irradiated. Sometimes it is found difficult to counteract the effects of the fats in a diet which is resorted to in order to obtain a large supply of vitamin D; sweetened lemon juice is given sometimes at bedtime in such cases. It is to be remembered that the amount of vitamin D to be supplied depends inversely on the time which a person spends daily in the sunlight; if he is much in the sun he will manufacture, to a great extent, his own supplies. It is also to be noted that certain foods are antagonistic to vitamin D, generally owing to the oil in the germ of certain varieties. Oatmeal, wheat and maize belong to this class, and so, when considering questions relative to the supply of vitamin D in a diet, these antagonisms have to be considered. We find that habit and tastes often set this right, as when, for instance, people com-

bine porridge and milk in a meal; the milk may usually be relied upon to supply sufficient vitamin D to surmount the antagonism of the oatmeal.

The functions of the remaining vitamins, beyond those already referred to in this series of articles, have not yet been very definitely defined. Vitamin E is believed to exercise functions connected with reproduction. It is present in certain fats, but in the unsaponifiable portions of them, not the part in which Vitamin D is found. Vitamin E is also found in yellow maize, the embryo of wheat, lettuce, green peas, butter, bananas, kale, beef, liver and eggs. Vitamins F and G are still awaiting much study before their functions are definitely understood; the latter is regarded as being valuable in the prevention and treatment of pellagra.

(To be Continued.)

### “FOR GALLANTRY.”

The King has approved of the award of the Medal of the Civil Division of the Order of the British Empire, for gallantry, to Sister Dorothy Louise Thomas, Middlesex Hospital.

The circumstances are thus described officially in the *London Gazette*.

The award was made “for an heroic and self-sacrificing action in averting a catastrophe after an explosion in the main theatre at the Middlesex Hospital.

“On a morning in January the dispensary porter was changing the reducing valve on a large oxygen cylinder in the anæsthetic room of the main ground floor theatre when an explosion occurred. The explosion took place as soon as he had turned the oxygen on, and was probably due to a piece of grit violently impinging upon the reducing valve and causing a spark.

“Following the explosion the issuing oxygen caught fire and a stream of sparks and flames shot through the open door of the anæsthetic room across the theatre for a distance of about 15 feet. Onlookers described the burning cylinder as being most alarming, and there was a general fear that it would explode at any moment. The theatre was immediately vacated.

“Sister Thomas stopped behind until all were clear and then removed the ether from the anæsthetic room and shut the doors with the idea of minimising the effect of the explosion which she expected.

“After a moment's reflection, however, she decided that it was her duty to try to avert the wrecking of the theatre, re-entered the anæsthetic room, ran up to the cylinder, and turned it off by the tap below the valve.

“The intensity of the burning was evidenced by the fact that the steel neck, or collar, of the reducing valve was partly burned away.

“Sister Thomas showed great bravery and coolness as she and all present believed that the cylinder might blow up at any moment.”

The whole Nursing Community will rejoice at this valiant sense of duty.

The heavier is your burden, the stronger and more courageous should be your heart, fearless of all that may chance to befall.

S. Catherine of Siena.

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