of each is 10 to 60 minims. The strength of each, 1 grain of the salt in 110 minims.

There is a hypodermic injection of the tartrate, which is certainly the most important preparation. The dose is 2 to 5 minims, strength 5 grains in 110 minims. It is simply called hypodermic injection of morphine.

Morphine enters into the tincture of chloroform and morphine, another important preparation. There is a suppository with $\frac{1}{4}$ of a grain of the hydrochloride; also a lozenge.

There is also the hydrochloride of apomorphine, prepared by treating the hydrochloride in sealed tubes with hydrochloric acid. The dose by hypodermic injection is $\frac{1}{20}$ to $\frac{1}{10}$ of a grain. By the mouth, $\frac{1}{10}$ to $\frac{1}{4}$ of a grain.

In cases of poisoning from morphine, emetics should be given, and the stomach pump used. The patient must be kept from sleep if possible, which is best done by exercise. Hot coffee may be given, and cold water applied to the face. Inhalations of oxygen and artificial respiration are also useful.

Essential Oil of Almonds, unless deprived of its Prussic Acid.

The bitter and sweet almonds, obtained from Prunus amygdalus, amara, or dulcis, are both official. The natural order is Rosaceæ. The almond tree is found growing in Asia Minor and in Southern Europe; also in North African countries. The almonds are very singular in appearance, but the bitter is rather broader than the sweet one, which is longer and narrower. In colour they are a cinnamon-brown; they have no odour. The sweet ones have a pleasant taste, whereas that of the bitter, though not disagreeable at first, quickly changes to a bitter one similar to peach kernels.

The bitter contain about 50 per cent. of a fatty or fixed oil, about 7 per cent. cane sugar, the glucoside amygdalin, and emulsion. The composition of the sweet almond is much the same, only it contains no amygdalin.

Essential oil of almonds is obtained from the bitter almond cake after the fatty oil has been removed. The cake is macerated with water, and essential oil is formed. The amygdalin in the presence of emulsion and water yields hydrocyanic acid, oil of bitter almonds, and glucose.

The prussic acid can be removed by means of lime and sulphate of iron. The oil is benzoic aldehyd, C_7H_6O. On exposure to the air it quickly becomes oxidised, forming benzoic acid.

By distilling the oil with lime and sulphate of iron, the hydrocyanic acid can be removed.

The fixed or fatty oil is recognised in the British Pharmacopœia. It enters into other preparations, and is often given in emulsions.

In cases of poisoning from essential oil of almonds the same method must be tried as in the case of an overdose of prussic acid.

Practical Notes on Invalid Feeding.

By Mrs. M. Westaway,
Associate of the National Health Society.

V.—VEGETABLE NITROGENOUS FOODS.

Some vegetable foods contain proteids in addition to starch, and form the mainstay of the vegetarian. The two chief proteids found in vegetables are legumin—which may be regarded as vegetable casein—and gluten, which corresponds to albumin.

Legumin is found in the seeds of plants belonging to the pea family, such as peas, beans, and lentils. They are a cheap source of proteid and form a valuable food for people with good digestions, but, with the exception of very young peas and beans, they should be banished from the sick-room. In the first place, they are difficult to digest, and, in the second, they give rise to flatulence in a greater degree than the corresponding food substance from the animal kingdom.

The remaining nitrogenous vegetables are cereals, of which wheat is the most extensively used in this country. The ear of wheat consists of a number of grains, each of which is in three distinct parts. There is the germ, which is really the embryo plant. It is composed chiefly of soluble proteid and fat, and is, therefore, a valuable part of the grain. Surrounding the germ is the endosperm, which consists of cellulose with its spaces filled with grains of starch and gluten. Covering the endosperm is a tough membrane in three layers which goes by the name of bran. It consists of dense and woody cellulose, impregnated with mineral matters and colouring matter. When stone-grinding was the method employed by millers, the outer membrane was removed, and the germ and the endosperm were ground together. The resulting loaf was highly nutritive, but dark in colour, and sometimes strong in flavour, owing to changes set up in the starch by the soluble proteid of the germ, and by the fat of the germ becoming rancid. Improved methods of milling flatten the germs without grinding them, so that they are easily removed by sifting. A loaf made with the sifted flour is very white owing to the excess of starch, but is poor in proteids. In Hovis bread, the germ is subjected to heat to prevent the fat becoming rancid, and is then restored to the flour. An analysis of Hovis bread shows that it is deficient in fat, but when the balance is restored by a liberal supply of butter it takes rank as an almost perfect food. According to Goodfellow, it is the richest of all breads in nitrogenous matters, and contains the least amount of cellulose.

When starch, under certain conditions, is subjected to great heat, it undergoes a change, by which it is converted into dextrin, a substance soluble in cold water. Dextrin is found in bread, and particularly in the crust, and also in various prepared foods.

previous page next page