

Dietary Rehabilitation of the Mal-Nourished

By Francis M. Pottenger, Jr., M.D.

Though malnutrition is usually apparent to the eye, a clinician is wise to make a thorough examination of a patient whose problem appears to be nutritional. Some indices of malnutrition are thin nails, indicating a disturbance in protein assimilation, especially lysine; thin skin, indicating sub-metabolism due to lack of fat, or the reverse, thick skin that cannot be picked up between the examining fingers, usually due to insufficient iodine in the diet or related to too much carbohydrate; dry, brittle, lack-lustre hair, generally seen where there is too little unsaturated fatty acid in the diet. The fat-starved patient is apt to be irritable and unpredictable. Exhaustion in varying degrees is universally seen in malnutrition.

To arrive at an understanding of the nature of the problem, ask the patient to keep a complete record of food-intake, including supplements, for one week. Allowing for 25% inaccuracy, you will nonetheless be able to get a fair picture of the deficiencies in the diet.

When possible, place the patient in a hospital where he can be given controlled rehabilitation therapy. A very exhausted patient should be kept in bed for a period of two or more weeks, whereas a moderately exhausted patient should become ambulatory within three or four days.

After analyzing the diet place the patient on a program designed to supply the lacking elements. It is wise to make a gastric analysis by the quinine resin exchange ion method to determine the gastric hydrochloric acid.

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A basic hurdle that must be taken is to stimulate the patient's appetite. Frequently to solve this problem, the patient is placed on multiple feedings of small amounts of food, offered either hourly or every two hours. This method is especially helpful for individuals suffering from postgastrectomy, dumping phenomenon; and for ulcer patients. Gradually increase (1) (2) the amounts of needed food, setting as the ideal goal a daily intake of 225 grams of protein, 250 grams of fat and 235 grams of carbohydrate. Include in each meal $\frac{1}{2}$ ounce of plain gelatin dissolved in soup or in a fruit flavored drink; once a day serve 1 drachm of raw bone meal as a source of calcium; 1 drachm of raw wheat middlings each meal as a source of the Vitamin B Complex as well as Vitamin E; 1 tablespoon of raw liver three times a week as well as a raw meat patty served as an hors d'oeuvre twice a week; raw green salads daily and

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if possible, raw Chinese bean sprouts in the salad; soup daily made from bones and meat together with fresh vegetables and fruits. Serve cooked whole grain cereals each breakfast and use whole grain bread stuffs entirely. Vegetables are lightly cooked, meats except pork and poultry, are served rare. The purpose is to supply foodstuffs altered as little as possible by heat in order to preserve the natural vitamins and minerals.

A patient on bed rest soon begins to enjoy his meals, and begins to gain a little weight. He may report some digestive trouble at first which can be corrected by administering 1½ ounces of castor oil, followed by a day of fast except for canned tomatoes and salt. The moderately exhausted patient is given exercise after three or four days of bed rest; and if the patient is elderly or is recovering from a prolonged illness, a short period of sitting in a rocking chair is a good beginning. This is followed by measured walks, increasing gradually as the patient gains strength.

The patient's progress is determined by the return of tissue turgor, especially the skin of the forearm. When it is resilient and can be picked free from the subcutaneous structure, the individual has recovered the adequate degree of nutritional stability to allow him to go home.

It is possible to carry out a rehabilitation program at home, but results are rarely as quickly obtained. Where family habits are already fixed, it is difficult to introduce new ideas in diet, or to protect the patient from the stress of existing problems. An institution geared to carrying out a program may be an economy in the long run, for rehabilitation can be more quickly achieved.

It is well to include instruction to the patient on the nutritional values of all foods and supplements employed, as well as methods of preparation, and finally, a demonstration of useful exercises to be continued after treatment.