

R E S T R I C T E D

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Nutritional Management of Malnourished Recovered
Allied Military Personnel

1. Malnutrition exists in Recovered Allied Military Personnel (RAMP). Observed deficiencies in order of frequency and severity are as follows: total calories; protein; vitamin A; thiamin; niacin; riboflavin. Preliminary surveys have not demonstrated the occurrence of scurvy.

2. The majority of recovered personnel are moderately undernourished but do not require hospitalization on this account alone. Their nutritional rehabilitation may be satisfactorily accomplished in reception camps.

3. Many recovered personnel, whose hospitalization is initially unnecessary, are hospitalized during or after transport to the reception camps because of severe gastro-intestinal distress due to improper feeding subsequent to recapture. It is emphasized that the gastro-intestinal tract of the malnourished individual is extremely sensitive. All medical officers who are responsible for the care of recovered personnel will advise unit commanders, as well as the personnel themselves, concerning the hazard of over-eating. The following foodstuffs should be omitted from the diet until tolerance is reestablished: concentrated components of C and K rations, raw fruits and vegetables, citrus fruit and tomato juices, doughnuts, peanuts and candy bars. Bread, milk, eggnog, cooked cereals, hard candy and other components of "soft" or "bland" diets are preferred items.

4. Recovered personnel who are hospitalized because of malnutrition fall into the following three groups:

a. Group I - Patients showing moderate loss of weight, weakness and gastro-intestinal distress but without definite signs of protein or specific vitamin deficiency. Approximately 80% of the recovered personnel who are hospitalized because of malnourishment will be in this group. Hospitalization will be required to combat weakness and gastro-intestinal distress by appropriate dietary and medical measures. Complete nutritional rehabilitation will be accomplished in reception camps. The following points are emphasized in the dietary treatment of this group.

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(1) The tolerance of the gastro-intestinal tract to the first foods eaten will determine the immediate dietary procedures to be followed. Soft diets are indicated and full use should be made of milk, egg and cooked cereal. Feedings should be frequent and in small portions (Appendix A). Overfeeding must be avoided. Suggestions for initiating the dietary regimen of malnourished soldiers are described in Appendix A.

(2) Restoration of nitrogen balance and gain in weight are primary goals. The diet should supply at least 150 gm. of protein as soon as normal eating is possible. Initial gain in weight will occur on an intake of 2500 to 3000 calories if the protein intake is adequate. Over 4000 calories will be required for a more rapid restoration of body weight. Four, or more, meals daily are recommended.

(3) Nutritional rehabilitation in this group is more satisfactorily obtained by the prevention of gastro-intestinal upsets and by the serving of appetizing, protein-rich meals than by the administration of multivitamin preparations. Multivitamin supplementation is necessary only during the period during which gastro-intestinal distress prevents normal eating. No more than 4 multivitamin tablets daily should be administered during this period.

b. Group II. - Patients showing marked loss of weight, weakness and evidences of specific deficiencies, such as edema, anemia, glossitis, etc. Approximately 20% of the recovered personnel who are hospitalized because of malnourishment will be in this group. The following points are emphasized in the treatment of this group.

(1) Initial feeding will be similar to that described for Group I in par 4 a (1) above, if food is tolerated by mouth.

(2) Patients with edema who cannot tolerate food by mouth will require intravenous therapy. Plasma and whole blood are indicated. Transfusions should be given at a rate of not more than 2 cc per minute. Four units of plasma and 500 cc of whole blood can be given very slowly in 24 hours. Dyspnoea, precordial discomfort and apprehension are danger symptoms that should lead to immediate discontinuance of the transfusion. The available protein of one unit of plasma is 15 gm. As tolerance for food by mouth increases, plasma administration can be decreased accordingly. Thiamin hydrochloride (30 mg.) (Medical Department items No. 1472405 and 1472410) and niacin (500 mg.) (Medical Department items No. 1301810 and 1301820) should be given parenterally every 24 hours until food is tolerated by mouth.

(3) The treatment of the macrocytic anemias is dependent on the restoration of protein deficits. Oral administration of iron is not recommended until nitrogen balance has been

established. Ferrous sulphate (1.5 gm. daily) (Medical Department items No. 1193000 and 1193300) may be given after the patient is in nitrogen balance if it is tolerated by the gastro-intestinal tract. Liver extract (Medical Department item No. 1256500) may be administered in macrocytic anemia early in the course of therapy. The recommended dose is one (1) cc intramuscularly every other day.

(4) Multivitamin supplementation is necessary in most of the severely malnourished patients during the first 15 days of treatment. No more than two multivitamin tablets (Medical Department item No. 1490500), 4 times daily, should be administered during this period. Specific vitamins may be administered in addition, as indicated.

c. Group III. - Patients showing extreme weakness, marked dyspnoea, severe nausea and vomiting, delirium or coma. These will be relatively rare.

(1) Immediate supportive therapy.

(a) Thiamin (30 mg.) (Medical Department items No. 1472405 and 1472410) and niacin (500 mg.) (Medical Department items No. 1301810 and 1301820) parenterally at 24 hour intervals.

(b) Plasma and whole blood transfusions at a rate which does not exceed two (2) cc per minute. No more than two (2) units of plasma & 500 cc of whole blood should be administered during the first 24 hours. Precautions outlined in par 4 b (2) above are also applicable here.

(2) As soon as food may be taken by mouth the dietary procedures described for Group II patients should be followed.

5. Recovered personnel may be hospitalized for malnutrition complicated by febrile episodes or hepatitis. These are indications for increased vitamin therapy. Penicillin should be used in inter-current infections. Sulfa drugs, if used, must be administered with caution and in smaller than the usual dosage.

6. Nutritional rehabilitation must be approached realistically from the point of view of available supplies and the actual deficiency states which are encountered. Every effort must be made to utilize the components of the authorized ration, particularly bread, because bread prepared in US Army bakeries is made from flour enriched with iron, thiamin, riboflavin and niacin. Vitamin therapy is only an adjunct to the overall dietetic treatment and the indiscriminate use of vitamin preparations must be avoided.

By order of the Chief Surgeon:

H. W. Doan

H. W. DOAN,
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1 Incl: Appendix A.

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APPENDIX A

Security Officer

Raylor

Suggestions for Initial Feeding of Malnourished Soldiers

Satisfactory diluted milk for use in forward areas, particularly, is made as follows:

One can of evaporated milk plus 3 cans of water; one-fourth canteen cup of sugar and one-fourth teaspoon of salt.

One canteen cup of whole milk powder plus 5 canteen cups of water, three-fourths cup of sugar and three-fourths teaspoon of salt.

One quarter of a canteen cup of the diluted milk should be given warm every half hour, as tolerated. Water may be taken in sips between feedings to the extent of 2 canteen cups daily. Powdered egg or prepared cereal (2 tablespoons for each can of evaporated milk or 5 for each canteen cup of powdered milk) may be added to the diluted milk after the first day if gastro-intestinal distress is absent.

Soup may be prepared from canned meat and vegetable stew or from canned meat and noodles if milk is not available. Mix with 5 volumes of water and one-fourth teaspoon of salt and simmer for 30 minutes. The soup may be thickened with flour or cereal. Allow the soup to cool and skin off the fat. Reheat and serve one-fourth canteen cup every half hour for several hours, as tolerated. It is advised to start with clear top liquids in order to test the sensitivity of the gastro-intestinal tract.

Meats, as fat-free as possible, may be used the second or third day if nausea is absent. Small portions should be served. Fresh beef is preferable but canned chicken, roast beef, tuna (after oil is washed away) or salmon may be used.

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