

MEMOR

9 September 1953

SEP 12 12 05 PM '53

SUBJECT: Investigation of Vitamin Supplementation of Army Rations
Under Conditions of Cold Stress

TO: Assistant Chief of Staff, G-4
Department of the Army
Washington 25, D. C.
ATTN: Research and Development Division

1. The Army Medical Service has been interested for some time in means which could be employed to alleviate stress experienced by soldiers under various military situations. One stress condition of considerable importance to the Army is that encountered by soldiers exposed to cold environments. Recent experiments conducted on both animals and humans have indicated that there is an increased requirement for vitamin C, panthothenic acid and perhaps other B vitamins in conditions of cold stress. Furthermore, the performance of both animals and humans and the ability to withstand cold environments seems to be enhanced when they are given a liberal quantity of the above vitamins.

2. With this in mind the Medical Nutrition Laboratory has planned a field study to be conducted 1 January to 31 March 1953 to determine whether the performance of the soldier exposed to a cold environment, or his ability to withstand cold, is increased by daily supplements of large quantities of vitamin C alone, or in conjunction with large quantities of panthothenic acid and other B vitamins. A copy of the protocol for this study "Vitamin Supplementation of Army Rations Under Conditions of Cold Stress" is inclosed.

3. This study was planned after conferences with both military and civilian experts. Their suggestions were incorporated into the final protocol and it has their approval.

4. Fort Francis E. Warren Air Force Base, Cheyenne, Wyoming was chosen as the test site since a survey of meteorological data for the past ten years revealed that this location provided a natural environment of consistently freezing weather combined with an average wind velocity of 12 miles per hour during the test period. It is also relatively near Fitzsimons Army Hospital which could provide consultant service and hospitalization for the seriously ill or injured should such be required. The Commanding Officer of the Medical Nutrition Laboratory has discussed informally the possible conduct of the test at this location with the Commanding Officer, Surgeon, Quartermaster and Engineer at Fort Francis E. Warren Air Force Base and was assured of their cooperation and support.

ARM1.940805.021

18-22 July 1994

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Accession #: 56A0198

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File: 700.2 (Essays, Lectures) Sept. 1952

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5. Personnel requirements. An increase in the authorized strength of the Medical Nutrition Laboratory of four (4) officers (1-MC and 3-MSC) plus six (6) enlisted men will be necessary to augment the regular laboratory staff for a nine month period beginning on or about 1 October 1952. The additional time before and after the actual test period is necessary to indoctrinate this personnel in the techniques to be employed and to aid in the compilation and analysis of the data obtained. In addition to personnel assigned to the Medical Nutrition Laboratory and those of other services (Quartermaster Corps, Air Force and Navy) who will be on temporary duty by invitation, the following personnel will be required for the actual test period 1 January to 31 March 1953:

120 Trainees
4 Platoon Leaders (Company Grade Officers)
4 Platoon Sergeants
1 Company Commander (Company Grade Officer)
1 1st Sergeant
1 Supply Sergeant
1 Company Clerk and Driver
1 Supply Clerk and Driver
1 Mess Sergeant
8 Cooks
4 Instructors
146 TOTAL

The 120 Trainees, 4 Platoon Leaders and 4 Platoon Sergeants, listed above, are test subjects. The remainder of the personnel operate the company and maintain the training program. The soldier's consent will be solicited in the case of those 128 personnel used as test subjects, thus the subjects are, in effect, selected volunteers. It is proposed that a leave of four (4) weeks be granted the test subjects, this leave to be charged as Convalescent leave, not against normal accrued leave.

6. It is proposed that the test subjects with supporting personnel be a training company at the Medical Replacement Training Center, Camp Pickett, Virginia (Class I Activity under Second Army jurisdiction). This or a similar unit must be designated no later than 15 November 1952 in order to screen and select suitable test subjects. The following criteria will be observed in the selection of test subjects:

- a. Somatotype: mesial and mesomorph
- b. Height: 5'8" to 5'11"
- c. Weight: 145 pounds to 180 pounds
- d. Elimination of Puerto Rican personnel
- e. Elimination of Negro personnel
- f. Elimination of the mentally and physically unfit

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7. Supply requirements. Supplies (excluding medical which will be provided by the Medical Service) are listed in inclosure 2 and must be obtained from the respective Technical Services.

8. Request coordination of the above plan with the Department of the Air Force and authority to: a. utilize the facilities at Fort Francis E. Warren Air Force Base to accomplish the proposed test during the period 1 January to 31 March 1953; b. utilize troops from the Medical Replacement Training Center at Camp Pickett, Virginia or elsewhere as test subjects; and c. obtain necessary supplies and equipment from the other Technical Services as indicated in inclosure 2.

2 Incls

1. Copy of protocol for subject study
2. List of QM equipment

GEORGE E. ARMSTRONG
Major General
The Surgeon General

CONCURRENCES:

Lowell Whayne
Preventive Medicine Div.

for Jerserwest
JOHN R. WOOD *Maj M&C.*
Colonel, M.C.
Chairman, Medical Research and Development Board

C. B. Brum
Medical Plans & Operations Div.

John H. ...
Supply Division

Maj V. Loisel
Education & Training Div.

W. G. ...
Personnel Division

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