

Plans for 1959 Marshall Island Medical SURVEYTime of SURVEY

Exact time unsettled. Waiting for reply from Navy on request for use of ship (LST). Dates ship requested - middle of February to March 1, 1959, for one month period. If necessary to change time of survey, will this affect your participation?

Examination schedule

1. Leave home in time to arrive at Honolulu on set date.
2. One to two days at Hawaii for staging.
3. MATS flight from Hickam Field to Eniwetok (about 12-13 hours).
4. Meet LST at Eniwetok and settle aboard.
5. Sail for Rongelap next day (estimated time 20 hours).
6. Remain at Rongelap 14-15 days for examinations.
7. Plans from Enajalein or Eniwetok for those not needed for remainder of survey to be returned to Enajalein and United States.
8. Leave for Utirik Atoll (estimated time, overnight).
9. Remain at Utirik for 2-4 days until examinations are completed.
10. Leave for Eniwetok or Enajalein (estimated time 28-36 hours).
11. Majority of team leave Enajalein or Eniwetok for United States.
12. Dr. Sutow and 2-3 team members to Majuro by plane (1 1/2 hours) for two day examinations.
13. Return to Enajalein and United States.

Examination facilitiesOn LSTMain-body room SPECIFICALLY

Decontamination station. A dressing room and shower facility will be prefabricated at Eniwetok to be unloaded on LST prior to survey.

Monitor room (air conditioned) will be prefabricated at Eniwetok to house hundred channel analysers and other electronics equipment and unloaded on LST prior to survey.

Sign room (21 tons) will be unloaded also at Eniwetok where it is now in storage.

Above facilities will be placed near middle of tank deck of LST

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X-ray facilities. The diagnostic x-ray machine (60 ma) will be set up in the forward part of the tank deck on arrival at Rongelap where the machine is stored. A 50 KW generator (to be supplied by AEC) will be unloaded at Eniwetok.

Dental unit may be set up aboard ship either at Eniwetok or at Rongelap. Cdr. Lyon is arranging for loan of this unit from Pearl Harbor where it is hoped this unit may be unloaded on the LST.

At Rongelap Village

Three buildings are available for use. The dispensary, school house and council house. These buildings were wired for electricity last year. Two 5 KW generators will be furnished by AEC, Eniwetok. One generator should be ample for power and the other will act as a spare.

Hematological examinations will take place in the laboratory of the dispensary. physical examinations in the school houses, and administrative and possibly other examinations in the council house.

PERSONNEL

Administrative: Examination arrangements with Rongelap people, skin examinations, urine collections, urine analyses.

Dr. Robert Conrad (HNL)
Bill Scott (HNL)

Hematology: Dr. Leo Meyer, in charge (South Mason Committee Hosp.)
Eml Adamik (HNL) chief technician
Irving Jones (South Mason Comm. Hosp.) technician
James Greenough (HNL) technician
Pacifico Tenorio (USGI) technician

Physical examinations:

Adults: Dr. William Lewis (Memorial Hospital)
Dr. Harry Humberg (HNL)

Children: Dr. Nat Sutow (M.D. Anderson Hosp., Houston, Texas)
? (AFMF)

Ophthalmological examinations:

Col. Austin Lowery (Walter Reed Army Hospital)
? technician

Dental examinations:

Cdr. Bill Lyon (USGI)
Kenneth Glasford (USGI) dental technician

Gamma spectroscopy:

Dr. Stan Cohn, in charge (BSL)
Maynard Richer (BSRI)
Dave Petter (BSL)

MUG and radiometric examinations:

James Gilmartin (BSL) technician

X-ray examinations:

7 (BSRI) x-ray technician

Photography:

Robert Smith (BSL)

Marshaling assistants:

1 Practitioner
1 Technician (?)
2-3 Rongelap people to assist in interpreting,
rounding up people, etc.

In addition there will be 6-8 scientists from the University of Washington to study radiation ecology with our group.

Personal needs

Passports

Before a passport can be issued, a letter from Office of CNO authorizing entrance to Trust Territory is necessary. If you have an out-dated passport, send it in to be renewed (with \$5). To get a new passport, go to the nearest court house with a friend of long standing, your birth certificate, two passport pictures and \$10.

International immunization card with necessary entry of inoculations - smallpox within one year, tetanus and typhoid within three years - are required.

Travel

All personnel, civilian and military, will travel under BSU policies. First class round trip plane ticket to Honolulu will be furnished. (Let us later know your desired reservations.) Per diem allowances include \$6. a day for meals, plus taxi fares, official telephone calls, passport fees. Hotel bills, within reason, will be reimbursed upon presentation of receipted bill. Advance per diem may be made if desired.

Clothing

Travel light. Winter suit and coat (or uniform) will be stored at Hicken. (May be cleaned and pressed in your absence.) Other recommendations - a pair of summer slacks and sport shirt for Honolulu, 3 pairs khaki shorts, several short-sleeved shirts and T shirts, underwear, canvas shoes or sneakers, swim suit, toilet articles, camera, dark glasses, under-water goggles (snorkel and fins if desired). Total weight about 15 pounds.

The remainder of allowance (up to 60 pounds) may be used up on the return trip with personal purchases at Kwajalein, Eniwetok and Namii. Military personnel will need summer khaki uniform for Kwajalein.

Examinations

Identification pictures in color will be taken on all individuals.

Interval histories: It is hoped a Marshallese practitioner will be made available to accompany the team for taking histories. Discuss history form.

Physical examinations:

1. Complete physical examinations, including pelvic examinations on women and rectal examinations on all adults.

2. Special measurements for ageing will be recorded during the examination and, if possible, duplicated by another physician. Discuss various criteria. Two-step function test?

3. Pediatrics and growth and development studies: In addition to routine physical examinations on children (less than 20 years of age) anthropometric measurements will be recorded. A special grid measurement picture will be taken on each child. X-ray pictures of the left wrist and knee will be taken for bone maturation studies. (See the special growth and development forms used.) Special effort to get firmer birth dates on children will be attempted. Discuss means of accomplishing this. (This should also be done on adults.)

4. Ophthalmologic examinations: Complete examination of the eyes including slit-lamp observations and eyeground examinations. Note certain eye measurements used in ageing study. Special effort will be made to get good accommodation measurements (one of the best indices of ageing). Retinal pictures? Discuss technician, photographic assistance.

5. Skin examinations: Residual beta burns will be carefully examined and photographed or biopsied for microscopic study if indicated. Note special skin measurements for ageing study.

6. Dental examination: Dental examination will be carried out as completely as possible under field conditions. Special study of status of dentition in children will be carried out with possibility of use as part of growth and development studies.

7. Audiometer test will be carried out on all subjects more than 10 years of age. Frequencies 256, 512, 1000, 2000, 3000, 4000, and 6000; also bone conduction tests.

8. Electrocardiograms on all adults? Discuss minimum number of leads. Discuss time element for one technician carrying out both audiometer and ECG tests.

Notification of hematology group of any clinical findings (elevated temperature, U.R.I., etc.) that would effect blood count of individual so that this can be recorded on blood data sheet.

Physicians should especially be on the lookout for congenital anomalies and record them.

Review criteria of ageing.

Therapy

One One of the best ways of maintaining rapport with the Marshallese is by medical and surgical therapy. In the past, particularly when the people were living at Majuro where hospital facilities were available, medical and surgical procedures carried out by our team were greatly appreciated by the people. Under the limited facilities at Rongelap, such procedures are necessarily limited in scope. However, every effort must be made to expand this aspect of our operation. Therefore, careful consideration must be given to therapeutic procedures that may be carried out such as medical, minor surgery, dental, etc. (Perhaps clinics should be held twice weekly, coordinated with Jabwe, the Health Aide.)

Discuss list of drugs and equipment and suggest additions or deletions.

Discuss inducement gifts.

Laboratory examinations

Hematological. It is anticipated that two complete blood counts will be done on each individual about a week apart. The first count will be done by venipuncture with enough blood drawn (25-30 ml) for carrying out other procedures to be outlined below. The second counts will be from finger sticks. These routine counts will include WBC, Differential, Platelet count, RBC, and hemoglobin. At the time of the first count, the following tests may also be done: reticulocyte counts, Price-Jones curves, coverslip smears for alkaline phosphatase determinations (by Dr. Malone in Boston) and extra smears for basophile counts of 4000 cells (to be done later at BNL). (Bilobed lymphocytes?) With the second count, sedimentation rates may be done on those with high WBCs.

A Coulter electronic counter will be used for WBC, RBC and, if the technique is worked out in time, for platelets. This device gives greater accuracy than visual counting and is quite a time saver. Pipettes and counting chambers will be taken should it be necessary to use the visual technique. Phase microscopy would then be used for platelet counts. The microhematocrit technique will be used for hematocrits. Hemoglobin - (Lumetron (?), Coleman (?), Other (?), Cresal blue staining for reticulocytes.

The Health Aide has been requested to give about 34 people one 5 grain tablet of ferrous sulfate daily until our arrival. Comparison of RBCs and hemoglobins in this group with those not treated may indicate whether iron deficiency is a factor in their lowered hematocrits.

Other Tests

Total plasma proteins by proteinometer.

Plasma volume - Cr⁵¹ tagging for plasma volume in about 10 exposed and 10 control people.

Serum iron - Serum will be drawn into specially cleaned glassware for serum iron determination to be done later at (?) Serum iron would have to be done on those not receiving iron tablets.

Serum for iodine studies - Repeat PTIs on people run last time plus other studies. (Dr. Blumberg and Dr. Hall). (Special glassware).

Thyroid uptake I¹³¹ - About 25-30 people being tested for serum iodine values will be given small amounts of I¹³¹ (1 µc?) and about 18 hours later counted in whole-body counter for thyroid uptake.

Sussenguth-Kline flocculation slide test for trichinosis on some 25-30 people with high eosinophil counts.

Skin test for trichinosis in same people as above.

Are any kidney or liver function tests indicated? (Higher Vitamin B₁₂ levels.)

Urinalysis - Routine urinalyses were carried out in 1957. Are they indicated on all or selected cases this year?

Other tests?

Whole-body gamma spectroscopy - Gamma spectra will be obtained on as many of the group being examined as is possible during the time there. Plant, soil, marine, and urine samples may also be analyzed in conjunction with the University of Washington group.

Urine collections for radiochemical analyses will be carried out on a large sample of people. The radiochemical analyses will be done at BNL. Efforts will be made to determine more accurately the 24 hour urine outputs.

Gamma survey of the islands of Rongelap, Eniwetok, and Utirik will be carried out.

Examinations at Rongelap

About 100 adults and children in the exposed group and a slightly larger number of unexposed people will be examined at Rongelap as outlined above in the two week period.

Examinations at Utirik

These examinations will be concerned only with growth and development studies of the children there, gathering of vital statistics and determination of general health status. Whole-body gamma spectroscopy will be done on the maximum number of individuals that can be run in the 3-4 day period there. Urine collections for radiochemical analyses

on these subjects and perhaps gamma spectroscopy of food, soil and urine samples will be done. A gamma survey of the island will be conducted in conjunction with the University of Washington group.

Examinations at Kwajalein

If the LST can spend a day or so at Kwajalein, it would be worthwhile to do gamma spectrographic analyses on some individuals and get urine samples for radiochemical analyses.

Examinations at Majuro

The two day period at Majuro will be spent in doing growth and development studies on the 20 Rita Village children who have been followed in the past.