

An Outline of Some of the Highlights of the Medical Survey of the Marshallese Carried out in February-March 1959, 5 Years After the Fallout Accident

Upon our arrival in Honolulu on 21 February, we learned that the LST (Duval County) would be several days later than anticipated in arriving at Eniwetok. To take advantage of this delay, several of us that had planned to go to Majuro at the end of the trip decided to do so at the beginning of the trip. We therefore got off the plane at Kwajalein and Captain A. F. Cope, USN, Commanding Officer, arranged for a flight for us that day to Majuro. This turn of events proved to be a blessing in disguise since, having heard of rumblings of discontent among the Rongelap people in regard to our medical examinations, it afforded an opportunity to discuss these problems with the people at Majuro and at the same time carry out the growth and development studies on the Rita Village children whom we have been following for the past 4 1/2 years. A conference was therefore held with Mr. Maynard Neas, Dr. Macdonald, and Mr. William White. They substantiated the report that the Rongelap people might offer some opposition to anticipated examinations. However, they were all in agreement with the importance of the examinations and Dr. Macdonald stated this aptly by remarking that "a new book in medicine is being written by your group" in this unexplored field. I told them that we planned to carry out an extensive treatment program as best we could under field conditions to help in our rapport with the people. They all agreed that this was an excellent approach.

They reiterated the problems associated with the rehabilitation of the Rongelapese and stated that they are most anxious that these people become stabilized economically. The continued disturbing factors associated with the bomb tests, weather stations, Rad Safe groups, survey teams, and so forth tend to aggravate the problem. (A survey team had been present on the northern atoll for the past several months.) Another important factor is the overcrowding on Rongelap. About three times the number of people are now living on the island as had previously. The situation is becoming critical in regard to space and copra production on the atoll. Mr. Neas pointed out that it may become necessary to move some of the people to nearby atolls (Alingnae and Rongerik) to relieve this situation.

*The Rongelap people were sent to Rongerik but could not produce anything there is not a productive atoll*

Following this conference Dr. John Iaman and I went to see Amata Kabua (son of Lejellen the Iroj of the western Marshalls). From correspondence which Mr. Neas had let me read in his office, it appeared that Amato was not in complete sympathy with our program and perhaps had been responsible for creating some opposition. However, our conference with Amato was most amiable and after explaining to him in some detail the reasons for our continued medical surveys, he seemed to be most sympathetic and felt that if we could explain to the people these reasons they would most likely be willing to be examined. This interview later proved helpful in my discussions with the Rongelap people.

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We departed Majuro on 26 February and arrived that evening at Eniwetok. On arrival we found that the LST had arrived that morning and unloading of the ship with our medical equipment was proceeding satisfactorily. The assistance of the AEC group and Holmes and Narver in getting the steel room, the air conditioned wooden room for housing electronics equipment, shower facilities and medical equipment on board was invaluable.

We departed Eniwetok on the LST Saturday, 28 February, and arrived at Rongelap on 2 March. I went ashore on an LCVP prior to beaching of the LST and met the new magistrate, Billimon, as well as the former magistrate, John, and many others. I explained to them the object of our visit and proposed that we hold a clinic for anyone needing treatment as soon as we could set up our facilities ashore. They seemed agreeable to our program at the time. Mr. Neal Morriss, agriculturalist representing the Trust Territory, was also on hand. Following beaching of the LST, offloading of the ship commenced in order to set up our medical facilities ashore. The unloading, however, was interrupted by request of Mr. Morriss in that the people were not certain that they wished to be examined and wished to have a council meeting. Therefore, offloading procedures were halted and a council meeting was held.

The meeting lasted 3 1/2 hours and I was questioned by the people on many subjects relating to their health and need for examination. Their principal point was that since we had said that they were healthy they did not see why they should have to be re-examined. I explained to them that though they were recovered from their acute effects of radiation we wanted to be certain that they remained healthy; that our knowledge of late effects of radiation in human beings was quite limited and that continued examinations were imperative in order that if further effects of their radiation exposure should occur we would be able to detect them and treat them. I explained to them the importance of the blood examination in establishing their state of health (the primary objection to the examination seemed to center around the blood sampling). They seemed to try to blame everything on the radiation accident. They claimed they have been feeling weak and not up to standard since their return to Rongelap. There have been a number of cases of fish poisoning which they believe were radiation effects. They were assured that the symptoms described were not due to radiation but were due to fish poisoning. They then claimed that such poisoning had not been prevalent prior to the 1954 accident. I was glad that I had Dr. Held with me to reassure them that fish poisoning was nothing new in the islands and was not related to the radiation accident. A rather searching question was asked in regard to coconut crabs. Why do we say they cannot eat the coconut crabs and yet allow them to feed them to the pigs and then eat the pigs? As you can imagine, the answer to this question was not easy to explain, and I had to go over this again and again with them. I don't know whether many of them were able to grasp the idea that the Strontium<sup>90</sup> though present throughout the meat of the crab was deposited only in the bones of the pigs and therefore, since they did not eat the bones, they would not get the Strontium<sup>90</sup> into their bodies. They wanted to know from Dr. Held why it was necessary for him to study the soil, plants, and marine

*assumative  
logic  
is the  
input  
point.*

life on their island. He explained that the levels of activity were too low to be harmful but were quite important from a scientific point of view. From the questions asked, I could not help but feel that there must have been some outside influence involved. During the meeting several people got up and openly said they would not allow themselves to be examined. However, as the meeting progressed, some of the talking seemed to do some good since others said that they would be examined and finally the magistrate agreed that we could continue with our plans with people being examined on a voluntary basis.

I was particularly disappointed that John, the former magistrate, was opposed to the examinations and I spent considerable time with him personally discussing the situation. As the examinations progressed in the next few days, the people warmed up considerably and soon even John came in and asked to be examined. This was most gratifying and, by the time the examinations were complete two weeks later, only one woman had refused to be examined and a general feeling of warmth and friendship was apparent in the people. It is hoped that on subsequent examinations we will not encounter the degree of opposition found this year.

At the end of the examinations a party was given for the Rongelap people in the palm grove behind the village. Lieut. Lassiter, skipper of the LST, kindly furnished a meal for the village and we gave them small gifts. Songs were sung and a good time was had by all.

On the day of departure another council meeting was held in the church following church services and I presented to the people a brief summary of their medical status. In addition to pointing out that they were generally found to be in good health, I tried to point out certain hygienic rules which I recommended they follow, such as those related to oral hygiene, use of latrines, fly prevention, and cleanliness of infected skin, etc.

On Monday, 9 March, the UN team arrived by plane and held a meeting in the church. Present were Mr. Chiping A. C. Kiang of China, chairman, Mr. Alfred Claeys-Bouuaert of Belgium, Mr. U tin Maung of Burma, and Mr. Sergio Kociancich of Italy. Mr. John DeYoung, Mr. Maynard Neas, and Mr. Boyd Mackenzie, Trust Territory representatives, were there in addition to three or four UN secretaries. It was soon apparent in this meeting that the earlier council meeting I attended was a dress rehearsal for this meeting since practically all of the same questions that had previously been asked were asked of the UN team. Mr. Kiang and other members of the team turned many of these questions over to me for answering and some were answered by Dr. Held. The UN members seemed to be pleased with the way the meeting went and in fact gave considerable support to our cause. On completion of the meeting I furnished them with a brief summary (which I stressed was preliminary in nature) on the survey findings. (Unfortunately, I did not have time to duplicate this statement before their departure.)

During the stay at Rongelap I went by helicopter to Naen Island to examine plant life for possible radiation effects. I had been told by Mr. Morriss that the coconut trees on this island showed most effect. I walked over the island seeing most of the palm trees and other plant life. It appeared to me that some of the coconut palms showed certain abnormalities such as a twisted deformity in the upper part of the trunk just below the crown; two trees showed double crowns and several trees showed a yellowing and wrinkling of the fronds. I did not notice such effects on trees around Rongelap Island. Pictures of these abnormalities were taken. I am not prepared to say whether these were radiation effects or were due to aridity of the island or other factors. I will discuss these findings with Dr. Arnold Sparrow here at Brookhaven and will show him the pictures when they are developed. I will also forward these pictures to DEM as soon as they are available.

The examinations of the people at Rongelap went quite satisfactorily. One complete blood count was taken and most of those showing abnormal counts had a second count done. Physical examinations did not reveal anything unusual. One case of cancer has developed in a 61 year old, exposed woman (now living at Ebeye). This is the only case of malignancy we have thus far found. I am a little concerned about the number of miscarriages and stillbirths that have occurred in the Rongelap people and will attempt to evaluate this further. (No cases of miscarriage or stillbirth were reported in the Utirik people since our last examination in 1957.) Some 150 people were counted in the steel room and about 50 samples of urine were obtained for radiochemical analysis. The food collections proved very disappointing due to the fact that the people to a large extent had been eating C rations since the past summer. These rations are being furnished by the Trust Territory, one case per person per month. It was therefore difficult to find any typical meal which did not include largely rice and C rations. However, pandanus, coconut, papaya, squash, etc. were obtained for analysis.

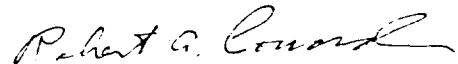
Mr. Richard Umhoefer, Trust Territory representative, was flown to Rongelap on 15 March to act as Trust Territory representative on our trip to Utirik. We departed for Utirik 17 March in the evening, arriving there on the 18th. The passage into Utirik lagoon and beaching was a treacherous operation. Ingenious use was made of the helicopter. It flew ahead of the ship and dropped smoke flares on either side of the channel and near dangerous coral heads to guide the ship in.

By contrast our reception at Utirik was considerably warmer than at Rongelap. The Utirik children were examined for growth and development and many people were counted in the steel room. In addition some blood samples were obtained for blood grouping studies. A clinic was held for treatment of Utirik people and it was noted that they seemed to be generally in good health. On completion of the examinations on 20 March, a going-away party was held for the people, the ship furnishing Koolaid, and we furnished small gifts of soap, cigarettes, etc. Songs sung by the Utirik people were recorded on tape and played back to them much to their delight. There appeared to be no question of maintaining rapport with the people of Utirik.

We departed Utirik for Kwajalein on 20 March arriving there the morning of the 21st. At Kwajalein during the next two day period some 30 Ebeye Marshallese were counted in the steel room and urine samples obtained of some for radiochemical analysis. Sixteen Rongelap residents now living at Ebeye were given complete physical examinations and hematological workup.

A conference was held with Capt. Cope and Dr. F. W. Meyer, Senior Medical Officer, in regard to the future status of Kwajalein and the continued support of our project. It appears that the present status of Kwajalein as a Naval Air Station will be cancelled out by the first of next year and that then a small skeleton group of Navy personnel may remain and a large group of Army and civilian personnel will take over. I am not at liberty to discuss the nature of this change. I thanked Capt. Cope and Dr. Meyer for the splendid cooperation we have received from them and explained that we were most anxious that such support be continued either from the Navy or any other group that might be there. I stressed the importance of Rongelap radio communications with Ebeye, the evacuation of emergency medical cases, the continuation of a monthly plane to Rongelap with the Marshallese practitioner and possibly an American doctor, forwarding copies of hospital records of Rongelap people at Kwajalein and the carrying out of autopsies on any Rongelap deaths if at all possible sending pathological specimens and bone samples to Brookhaven for diagnosis. They felt that it was quite likely that whoever took over at Kwajalein would be willing to carry on this assistance. However, I believe we will have to keep a close eye on changes there in order to maintain this support. The reduction of the \$5. hospital fee to \$1. at Kwajalein Naval Hospital has been approved by the Air Force but is now in the office of the Comptroller General for his approval. They will send a twix to get this final approval.

The examinations completed at Kwajalein, the medical team headed for home on 24 March. Two members of the team remained on board the LST for the trip back to Eniwetok in order to supervise the offloading of the medical equipment. On the whole the medical survey went very smoothly and most of the data sought for was obtained. The medical team worked well together and as in the past the support of the Navy and the AEC at Eniwetok was indispensable. The University of Washington group under Dr. Held accomplished their mission successfully.



Robert A. Conard, M. D.  
Chief, Marshallese Medical Surveys  
Medical Research Center  
Brookhaven National Laboratory