



UNITED STATES
 ATOMIC ENERGY COMMISSION
 WASHINGTON, D.C. 20545

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Mr. John T. Conway
 Executive Director
 Joint Committee on Atomic Energy
 Congress of the United States

Dear Mr. Conway:

This is to provide you with the most recent information on the occurrence of nodular thyroid abnormalities among the 69 surviving Marshallese Islanders exposed to fallout on March 1, 1954. Dr. Robert Conard of the staff of the Medical Department of the Brookhaven National Laboratory has just returned from the Marshall Islands where he and his team during February-March 1966 conducted the latest of the continuing series of medical examinations of these people.

Our last letter on this subject, dated October 26, 1965, advised that a cumulative total of 11 Marshallese had been found to have nodular thyroids at the conclusion of the medical survey conducted during August 1965. A nodular thyroid was first detected during the survey of February 1963.

The just-concluded survey has disclosed five additional people with nodules. This brings to 16 the number of diagnosed cases of nodular thyroids among the 69 survivors of the original 82 at risk. The age distribution of incidence is shown below.

Age at Exposure	Number Exposed	Total Incidence of Nodules through March, 1966	
		Number	Percent
1-5	16	9	56
6-10	9	4	44
11-15	7	0	-
16-20	5	0	-
> 20	<u>32</u>	<u>3</u>	<u>9</u>
	69	16	~25

Fifty-five of the 69 were on Rongelap Island and received estimated whole body doses of 175 R plus possible doses of 700 to 1400 rem to their thyroids from the radioiodine. The remaining 14 were visiting on Ailingnae, a nearby island, and received estimated 69 R whole body exposures plus less certain, but probably smaller thyroid doses. None of the six children (1-10 years of age) who were with the group on Ailingnae has shown nodules, but one of the three adults in the table was on Ailingnae.

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 COMMISSION

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Folder 4M2 INCIDENCE OF THYROID CANCER OR OTHER NODULES IN THE MARSHALL ISLANDS

STATUS VERIFIED

NON-CCRP

BY William A. ... DATE 5-5-81

The only instance of cancer of the thyroid was seen in a Rongelap woman who was approximately 30 years of age at the time of exposure. The nodular condition seen in the young people is not a cancerous process, although cancers of the thyroid often grow in nodular fashion.

In August 1965 nearly all these people were placed on tetraiodothyronine, a synthetic thyroid hormone, on the basis that such therapy would modify the incidence and/or course of the nodular process. It appears to have been partially effective but it is still too soon to be definite.

Forty children of the same age grouping who were on Utirik Island and received 14 R whole body plus proportionately smaller thyroid exposures were also examined. They showed no signs of thyroid nodules or thyroid disease.

In addition, 194 unexposed Marshallese now living on these islands were examined; three instances of nodules were found, all among people more than 47 years of age.

Five of the Marshallese with nodular thyroids will be brought to the Brookhaven National Laboratory during May 1966 for further diagnostic study and possible surgery. One is a 46-year-old woman; the others are girls 13, 13, 13 and 20 years old now. They will be accompanied by the Rongelap school teacher who will act as interpreter. The treatment and travel of these six Marshallese have been developed with cooperation of the Honorable Wilfred Goding, High Commissioner, Trust Territory of the Pacific Islands.

You will be kept informed of the progress of these studies. An advanced copy of the public announcement on this subject prepared by the Brookhaven National Laboratory is enclosed.

Sincerely yours,

(Signed) S. G. English

S. G. English
Assistant General Manager
for Research and Development

Enclosure:

"Five Marshall Islanders to be
Examined at Brookhaven Medical Center,"
announcement by Brookhaven National
Laboratory

FIVE MARSHALL ISLANDERS TO BE EXAMINED AT
BROOKHAVEN MEDICAL CENTER

Upton, New York, May , 1966. Five people from Rongelap Atoll in the Marshall Islands of the Pacific will be brought to the Medical Research Center of AEC's Brookhaven National Laboratory at Upton, L.I., N.Y., this month for clinical examination and possible surgery. They have nodules -- a thickening or hardness -- in their thyroid glands which appear to be the result of exposure to fallout radiation from an atmospheric nuclear detonation at Bikini 12 years ago. Of the five, one is a mature woman, three are girls in their early teens, and one is a young woman under 21 years of age.

The five additional cases, noted early this year during the continuing annual medical surveys of the islanders, bring the total number of thyroid cases to 16 out of the original 82 Rongelap people who were exposed. The thyroid nodules were first detected in March, 1964, during the tenth annual medical survey of the people of Rongelap and Utirik Atolls. Thirteen of 19 children in the more heavily exposed group, all of whom had been exposed at less than ten years of age, had nodules. All nodules of those children who were examined or treated surgically were found to be benign. Only one person, a woman of 40 years, had cancer of the thyroid, for which she received surgery a year ago, and is now doing well. In addition, there were two boys with hypothyroidism in the exposed group who had previously shown growth retardation. These boys have improved as a result of the thyroid hormone therapy instituted six months ago.

(more)

Of interest among the twelfth annual medical survey observations was the absence of thyroid abnormalities in the 40 Utirik children examined who were of the same ages as the high-incidence group of exposed children on Rongelap. The Utirik children had received considerably less radiation exposure.

BACKGROUND

Following the detonation of a thermonuclear device on March 1, 1954, during atmospheric tests in the Pacific Proving Grounds, an unpredicted shift in winds caused deposition of significant amounts of fallout on four inhabited atolls east of Bikini. These were Rongelap, Ailinginae, Rongerik and Utirik Atolls. Rongelap received the largest radiation exposure. Eighty-two people of Rongelap Atoll were accidentally exposed to fallout radiation where the average whole body exposure was approximately 175 roentgens. Additional amounts of radiation resulted from absorption of radioiodine in the thyroid glands. Since that time the U.S. Atomic Energy Commission and the Trust Territory of the Pacific Islands have sponsored annual medical surveys of the exposed people. The surveys are carried out by a Brookhaven National Laboratory team, headed by Dr. Robert A. Conard from the Laboratory's Medical Research Center.

Immediately after the 1954 exposure the people were evacuated to Kwajalein Atoll for treatment and were subsequently on Majuro Atoll until 1957 when they were returned to Rongelap. On their return to their home atoll the United States provided them with a new village and other facilities and services to assist their re-establishment. The current population of Rongelap is about 228 persons. Last year Congress appropriated \$950,000 as "compassionate relief" payment to the exposed population.