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## Article

## Further Developments of Thyroid Nodules in Marshallese Population Accidentally Exposed to Radioactive Fallout in 1954

In May 1966, five Rongelap people who had recently developed thyroid nodules were brought to the Medical Research Center of Brookhaven National Laboratory for examinations and evaluation for surgery. The five are part of a population of 82 Rongelap people (69 now living) exposed to radioactive fallout in 1954. There have been 18 cases of thyroid abnormalities discovered within the past three years during the annual BNL-sponsored medical surveys. Of these cases, 15 were children who were exposed at less than 10 years of age. No thyroid abnormalities have been discovered in 100 children of the same age range who had received either no exposure or very low exposure, though several small nodules have been detected in older unexposed Marshallese in the comparison population. It is believed that the abnormalities are due to the radiation exposure of the thyroid gland from absorption of radioiodines in food and water from gamma radiation at the time of the fallout. The five cases recently brought here were all females, four children and one adult. They were given extensive examinations and then taken to the New England Deaconess Hospital in Boston for surgery. The nodules proved to be nonmalignant, and after their uneventful recovery the patients were returned to the Marshall Islands.

A total of 11 cases of thyroid nodules have now been operated upon; only one case proved to be malignant. In addition, two cases of hypothyroidism (reduced function of the thyroid) developed in two boys who were retarded in growth at the time of the earlier

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examination. This finding suggests that the slight retardation of growth noted in younger children may be related to the thyroid abnormalities. Institution of thyroid hormone treatment in the exposed people was started recently, in the hope that such theraphy would reduce the incidence of thyroid abnormalities and stimulate growth in the children. Preliminary indications are that there is a growth spurt in the two most retarded boys, and in one adult a nodule could no longer be detected following treatment. There are still four children who have nodular thyroids, and they will be reevaluated for possible surgery following further treatment with thyroid hormone. The continuing examinations in this Marshallese population are affording valuable information on the effect of radiation on human beings.

> R. A. Conrad, M.D. Medical Department Brookhaven National Laboratory

## Mental Health

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involve the physician's ability as a scientist, but his failure to develop a healthy interpersonal relationship with his patients and their families may weigh heavily against the doctor's public image and his skill as a healer.

> Hyman Barahal, M.D., Chairman Mental Health, Alcoholism & Drug Addiction Committee

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