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# How does long term exposure to low levels of radiation affect prenatal health in the Marshall Islands?

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## ABSTRACT

The purpose of this research proposal is to investigate the public health issues inflicted on women and children following the period of nuclear testing in French Polynesia, specifically in communities descending from victims of direct impact in the Marshall Islands. This research may give insight into the intergenerational transmission of potential health defects resulting from nuclear exposure, which may aid in creating a humanitarian solution to such a health crisis. Through a multi-method approach involving the analysis of health history and engagement with the Marshall Island residents, this research aims to understand the modern implications of radiation exposure on prenatal and reproductive health.

## IMAGE ATTRIBUTION

worldatlas.com

## GUIDELINES

The information involved in this study is highly personal to the individual. It is important to respect the sensitivities of the participant and share all data and outcomes while observing participant confidentiality.

## MATERIALS

Health Records  
Computer

## OPEN ACCESS

**DOI:**  
[dx.doi.org/10.17504/protocols.io.j8nlkwjzw15r/v1](https://dx.doi.org/10.17504/protocols.io.j8nlkwjzw15r/v1)

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## MANUSCRIPT CITATION:

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**Protocol status:** Working  
We use this protocol and it's working

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**PROTOCOL integer ID:**  
80597

**Keywords:** Marshall Island, Nuclear Testing, Radiation Exposure, Prenatal Health, Reproductive Health

SAFETY WARNINGS



Follow all travel advisories.

ETHICS STATEMENT

I vow to approach this study with the full cognizance that this information is highly sensitive and traumatic to a population. All information will be shared with health care systems to potentially reform and better serve the affected population.

BEFORE START INSTRUCTIONS

Prepare a data extraction template for health and birth records to report information and occurrences of reproductive health complications, prenatal health complications, and birth defects for the quantitative portion of this study. Prepare a guided interview question sheet for the qualitative portion of this study.

Quantitative Data Collection

- 1 Obtain birth and health records from individuals living and originating from Northern Marshallese populations (study group) in the Kwajalein Atoll, Enewetak Atoll, Utrik Atoll, Rongelap Atoll, and Bikini Atoll beginning in 1980.
- 2 Obtain birth and health records from individuals living and originating in Southern Marshallese populations (control group) in the Majuro Atoll beginning in 1980.
- 3 Consolidate health file pool by searching for key words related to prenatal health, birth defects, and reproductive health.
- 4 Extract information based on the data extraction template in the relevant pool of study files.

Quantitative Data Analysis

- 5 Calculate summary statistics for each group.

6 Compare statistics and conduct a T test.

7 Present data in a table with T-values.

## Qualitative Data Collection

8 Partner with the World Health Organization and Community Health Councils in the Marshall Islands to engage with local health centers and communities in the Kwajalein Atolls, Utrik Atolls, Enewetak Atolls (in the North) and the Majuro Atoll (in the South).

9 Visit each health center and connect with individuals willing to engage in this research. Use the guided interview sheet to lead conversations around their experiences and observations.

## Qualitative Data Analysis

10 Create a write up of reports to supplement the quantitative data.