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CENTER FOR HUMAN RADIOBIOLOGY

Fact Sheet on
Exhumation Cases

Many persons have died unstudied or could yield data after death which was inaccessible during life. When such cases are of special interest we seek permission to exhume their remains.

Completed Exhumations

To date we have exhumed 111 cases, 105 with radium exposure, 3 with plutonium exposure, 1 with thorium exposure and 2 controls.

Most of these cases had unknown body burdens at the time of exhumation and many of the radium cases had a history of bone sarcoma or sinus or mastoid carcinoma. The 111 exhumations which have been completed are summarized in the table below.

Category	Dose, rad			Tumor	
	≥1000	<1000	To be measured	Bone	Sinus
Female radium dial workers first exposed before 1930, listed cases(1)	20	0	1	9	0
Female radium dial workers first exposed before 1930, unlisted cases	8	8	4	10	6
Medical exposure to radium (injection, Radithor, radium water)	22	12	5	4	1
Radium laboratory workers (chemists)	4	14	2	1	0
Plutonium injection	--	--	3	0	0
Miscellaneous (radium, thorium, control)	0	5	3	0	0

(1) Waterbury Clock Company list: 16 cases; U. S. Radium Company list: 4 cases; Radium Dial Company list: 1 case; cases on other lists excluded.

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Proposed Exhumations

Exhumations are currently being sought for 123 cases, 115 with radium exposure and 8 with plutonium exposure.

The principal reasons for selecting these cases were that there was little or no body burden information and that: (1) their names appear on unselective lists of employees, (2) their death certificates indicate causes of death which might be radium related, such as bone sarcoma, sinus or mastoid carcinoma, central nervous system tumor or other suggestive pathology, (3) they were injected with known amounts of radium and thus can be used to improve our knowledge of radium metabolism and skeletal dosimetry, or (4) they received plutonium injections and can be used to study plutonium metabolism and skeletal dosimetry in man.

Although permission to exhume is not always granted, our success rate has been high in recent years. Since 1971, permission has been granted by all of the next-of-kin in about 40% of the cases.

<u>Category</u>	<u>Total</u>	<u>Possible radium-related causes of death</u>			
		<u>Bone tumor</u>	<u>Sinus tumor</u>	<u>CNS tumor</u>	<u>Suggestive pathology</u>
Female radium dial workers first exposed before 1930, listed cases ⁽¹⁾	72	19	3	3	4
Female radium dial workers first exposed before 1930, unlisted cases	17	5	1	1	2
Medical exposure to radium (injection, Radithor, radium water)	12	2	0	0	0
Radium laboratory workers (chemists)	6	1	0	0	0
Miscellaneous	8	0	2	1	0

⁽¹⁾ Waterbury Clock Company list: 28 cases; U. S. Radium Company list: 28 cases; Radium Dial Company list: 16 cases; cases on other lists excluded.