

TO:

Doctor Rubert S. Anderson
 Doctor Austin M. Brues
 Doctor V. P. Calkins
 Doctor Simeon T. Cantril
 Doctor Lauren R. Donaldson
 Doctor Robley D. Evans
 Doctor Titus C. Evans
 Doctor G. Failla
 Doctor Hymer L. Friedell
 Doctor Joseph G. Hamilton
 Doctor Alexander Hollaender
 ✓ Doctor A. L. Holland
 Mr. A. Kalitinsky
 Doctor Wright Langham
 Mr. Edward G. Littel
 Doctor A. J. Miller
 Doctor R. R. Newell
 Doctor L. F. Nims
 Doctor W. A. Selle
 Mr. Gordon Simmons, Jr.
 Mr. T. A. Sims
 Doctor Robert S. Stone
 Mr. Carlton J. Ward, Jr.
 Doctor Shields Warren
 Doctor Stafford L. Warren
 Doctor Raymond E. Zirkle

MEDICINE, HEALTH & SAFETY 3

Repository:	NARA Atlanta Archives
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2000877

25 March 1949

Dear Sir:

The proposals for research problems which I have received fall roughly into six separate categories, an enumeration of which you will find enclosed. I have attempted to correlate the suggestions and have placed them in outline form under appropriate subject headings. Each subject has been placed on a single sheet, in most instances leaving room for you to make notes at our meeting on Sunday, 3 April 1949, in Washington, D. C.

It is hoped that you will study these problems prior to the meeting and will be prepared to make specific recommendations to NEPA.

Very sincerely yours,



Andrew H. Dowdy, M. D.
Chairman, NEPA Advisory Committee
on Radiation Tolerance of
Military Personnel

AHD:car
Air Mail

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N E P A

SUGGESTED RESEARCH PROBLEMS

- I. Methods for Detecting the Degree of Sensitivity of Individuals to Radioactive Exposures.
(Selle, Robley Evans, Dowdy)
- II. Pharmacological Studies of Radiation Reactions.
(Selle, Anderson, Calkins)
- III. Evaluation of Physical Fitness following Total Body Irradiation.
(Selle, Anderson, Dowdy)
- IV. Conversion Factors, N to r and Additivity.
(Selle, Anderson)
- V. Evaluation of Long-Term Effects.
(Anderson, Selle, Dowdy)
- VI. Compilation of Available Data as Initiated by NEPA Advisory Committee on Radiation Tolerance of Military Personnel.
(Anderson, Selle, Dowdy)

VII *Mottle Carlo.*

N E P A

SUGGESTED RESEARCH PROBLEMS

I. Methods for Detecting the Degree of Sensitivity of Individuals to
~~Radioactive Exposures~~ Radiation

(Selle, Robley Evans, Dowdy)

- A. Mitotic suppression in human epidermis
- B. Erythema (the degree of erythema produced by graded exposures near the standard erythema values)
- C. A correlation of the over-all response of patients undergoing irradiation treatment with their erythema response as determined under B.
- D. Histogenetic effects upon bone marrow and their correlation with the peripheral blood picture.

N E P A

SUGGESTED RESEARCH PROBLEMS

II. Pharmacological Studies of Radiation Reactions.

(Selle, Anderson, Calkins)

A. Counteracting biological effects resulting from irradiation

B. Biological program suggested at Chicago, 23 June 1948, by
Calkins, Chief of Chemistry Section, NEPA.

1. Pilot checking of antioxidants and other compounds as
fortifying agents

2. Combinations of promising compounds

Hemorrhagic syndrome — Toluidine blue, etc.

Nondescript toxic phenomena — Ethylene disulfonate, etc.

Decreased resistance — Penicillin, etc.

3. Study of susceptibility dermographism as affected by
radiation toxicity in animals

N E P A

SUGGESTED RESEARCH PROBLEMS

III. Evaluation of Physical Fitness following Total Body Irradiation.

(Selle, Anderson, Dowdy)

- A. Maze running
- B. Treadmill
- C. Swimming tests
- D. Hardy-Wolf pain stimulator
- E. Activity cage
 - 1. Squirrel cage type
 - 2. Movement recording type
- F. Voluntary (willingness to exert)

N E P A

SUGGESTED RESEARCH PROBLEMS

- IV. Conversion Factors, N to r and Additivity.
Percent. of ionization contributed within the body from each
of several types of radiation -- gamma, neutron.

(Selle, Anderson)

IV- monte Carlo

N E P A

SUGGESTED RESEARCH PROBLEMS

V. Evaluation of Long-Term Effects.

(Anderson, Selle, Dowdy)

- A. Longevity
- B. Study of rate of application
- C. Resistance to standardized "doses" of infectious agents
(previously suggested by Failla)

N E P A

SUGGESTED RESEARCH PROBLEMS

VI. Compilation of Available Data as Initiated by NEPA Advisory Committee
on Radiation Tolerance of Military Personnel.

(Anderson, Selle, Dowdy)