

RADIOACTIVE DRUG RESEARCH COMMITTEE

Radiation Safety Committee

PURPOSE

This procedure defines the membership, authority, responsibilities, and operating rules of the University's Radioactive Drug Research Committee of the Radiation Safety Committee.

POLICY

In accordance with the **Food and Drug Administration (FDA)** regulations, the **Radioactive Drug Research Committee (RDRC)** is empowered and required to evaluate and to approve or disapprove all research and developmental uses of radioisotopes on or in human subjects. The members of the **RDRC** also serve on the **Human Use Subcommittee of the Radiation Safety Committee (HUS)**. Reviews of applications for the use of ionizing radiation sources on or in human subjects are conducted by the **RDRC** only after the adequacy of the facilities and qualifications of the investigator have been verified by the **Radiation Safety Officer (RSO)**. Applications for the use of ionizing radiation sources in human research studies which require an **RDRC** review from the **Veterans Affairs Medical Center (VAMC)**, **Shriners Hospitals for Children** and **Primary Children's Medical Center** in support of the **University of Utah Institutional Review Board (IRB)** which provides reviews for these entities are also reviewed by the University's **RDRC**.

RESPONSIBILITIES AND AUTHORITY

The **RDRC** is responsible for the evaluation and approval or disapproval of applications involving investigational or non-routine clinical uses of *radioactive drugs without New Drug Applications (NDA) filed with the FDA or without Investigational New Drug (IND) numbers issued by the FDA.*

MEMBERSHIP

The **RDRC** must be composed of at least five individuals professionally qualified in the use of radiation in medicine and clinical research and must include the following four individuals: (i) a physician recognized as a specialist in nuclear medicine, (ii) a person qualified by training and experience to formulate radioactive drugs, (iii) a person with special competence in radiation safety and radiation dosimetry, and (iv) a physician recognized as a specialist in radiation oncology.. The Chairperson of the **Radiation Safety Committee (RSC)** and the **RSO** shall be *ex-officio* members.

The **RDRC** members and chairperson are appointed by the **University President** for indefinite terms on the basis of professional qualifications. These appointees shall be individuals qualified in various disciplines pertinent to the field of radiology (e.g. nuclear medicine, internal medicine, clinical pathology, hematology, endocrinology, radiation therapy, radiation physics, radiation biophysics, health physics and radiopharmacy). Membership shall be sufficiently diverse to permit expert review of the technical and scientific aspects of proposals submitted to the **RDRC**.

Membership of the **RDRC** is reviewed at least annually and additions or replacements normally are appointed at the beginning of the fourth calendar quarter.

RDRC members shall be specifically approved by the **Center for Drug Evaluation and Research, Division of Medical Imaging and Radiopharmaceutical Drug Products**. Applications shall be submitted to the **FDA**, shall contain the names and qualifications of the **RDRC** members, and shall contain a statement that the **RDRC** agrees to comply with the requirements of 21 CFR 361.1. **FDA** approval is based upon assessment of the qualifications of the **RDRC** members and the assurance that all necessary fields of expertise are covered. Approval of the **RDRC** remains effective unless and until the **FDA** withdraws such approval. Changes in membership and applications for new members shall be submitted to the **FDA** as soon as, or before, vacancies occur on the **RDRC**.

REVIEW OF RESEARCH APPLICATIONS

Research application forms are submitted to the **RDRC** for use of radioactive drugs, diagnostic external radiation, and therapeutic ionizing radiation in human research studies through the IRB's web based system (ERICA). Each proposed research study must have a **Responsible User (RU)** who has a *Clinical Radiation Use Application* on file with the Radiological Health Department. The **RU** is not required to be the **Principal Investigator (PI)** of the research study, but is the individual responsible for ensuring safe use of ionizing radiation sources in the research study.

All applications, *except for studies involving radioactive drugs without a NDA filed with the FDA or without an IND number issued by the FDA*, are handled and approved or disapproved online through the ERICA system (erica.research.utah.edu). All **RDRC** members must vote on each application within the allotted time. In the event the member does not vote due to absence during the balloting period, his/her vote will be considered an abstention. On a protocol in which he/she is a PI, the **RDRC** member shall abstain from voting.

ADVERSE REACTIONS IN SUBJECTS

The **PI** shall **immediately** report to the **IRB** and the **RDRC** all adverse reactions associated with the use of the ionizing radiation sources in the human research study. In accordance with 21 CFR 361.1, all adverse reactions *involving radioactive drugs without a NDA filed with the FDA or without an IND number issued by the FDA* must be reported **immediately** to the **FDA** by the **RDRC**.

MEETINGS, AGENDA, AND QUORUM

The **RDRC** meets as needed to review and act on applications for use of radiation sources in or on human subjects. The **RDRC** must meet at least once in each quarter in which research has been authorized or conducted. A quorum consisting of more than 50 percent of the **RDRC**'s total membership must be present with appropriate representation of the required fields of specialization. Between meetings, decisions may be made by a majority of all voting members *via* e-mail or mailed ballot. Parliamentary procedures shall be determined by *Robert's Rules of Order*.

RECORDS AND REPORTS

The **RDRC Chairperson** shall sign all applications, minutes, and reports of the **RDRC**. Minutes shall be kept and shall include the numerical results of votes on the applications. Dosimetry must be reviewed for each application.

The **RDRC** reports to the **RSC** in writing at least once each calendar quarter. A recommended standard **RDRC** Activity Report is included in this RPR. Approved minutes from **RDRC** meeting(s) held in the previous calendar quarter also are submitted to the **RSC** each calendar quarter.

The **RDRC** shall submit an annual report on or before January 31 of each year to the **FDA**. The annual report includes the resumes and qualifications of the members, and of any consultants to the **RDRC**, and a summary of information *for each study involving radioactive drugs without a NDA filed with the FDA or an IND number issued by the FDA* conducted during the preceding year. Changes in membership need to be provided immediately, preferably before the change occurs. The format of this annual report must be in accordance with 21 CFR 361.1 (FDA Forms 2914 and 2915).

In accordance with 21 CFR 361.1, the **RDRC** also shall submit a special summary report (FDA Form 2915) to the **FDA** *for each study involving radioactive drugs without a NDA filed with the FDA or an IND number issued by the FDA* in which 30 or more subjects will be studied or in which subjects under age 18 will be studied. A special summary report shall be sent to the **FDA** **immediately** after **RDRC** approval of such a study.

FDA MONITORING OF THE RDRC

The **FDA** reviews periodically the **RDRC**. Monitoring is conducted through review of the annual reports, minutes and full protocols for certain studies, and onsite inspections.

GUIDELINES FOR USING (HEALTHY) VOLUNTEERS IN RADIATION-RELATED STUDIES

The principal investigator(s) should be familiar with the general guidelines stated in the Office of Human Research Protections (OHRP) "Institutional Review Board Guidebook" relative to the involvement of students, employees, and normal volunteers in research. The Radioactive Drug Research Committee of the Radiation Safety Committee (RDRC) wishes to emphasize, that proposed research using ionizing radiation should maximize the possible benefits (i.e. increase the knowledge base) and minimize the radiation risks involved through participation. It should be emphasized further, that participation is voluntary and does not involve large monetary payments, student credit, etc. as inducements to participation.

In addition, the **RDRC** has set down some specific guidelines for PIs to follow:

1. Adults (18 years and older): The annual maximum occupational limit for radiation workers will be invoked. That is, the whole body dose delivered to the healthy adult volunteer will not exceed 50 mSv (5 rem) per year for the study.
2. Children (below age 18 years): In the case of volunteers below the age of 18 years, the whole body dose must be below 1 mSv (100 mrem) per year for the study.
3. The protocol must outline specifically the reason(s) for using healthy volunteers and the expected outcomes relative to knowledge gained. *This justification will play a crucial role in determining whether their inclusion will be approved.*
4. The Consent Form will include the following:
 - A. If there is no potential therapeutic benefit from participation, that fact should be clearly stated.
 - B. The participant may be subject to additional exposure to ionizing radiation from diagnostic tests (dental x-rays, chest x-rays, etc.) related to their personal health during the time period they are involved in the study.
 - C. The participant attests to the fact that they have not participated in any previous research studies involving the use of ionizing radiation (either radioisotopes or diagnostic x-rays) during the past 12 months.
 - D. The participant should not volunteer for other research studies involving the use of ionizing radiation within 12 months of completing the current study.

REFERENCES

Food and Drug Administration, *Radioactive Drugs for Certain Research Uses*, 21 CFR 361.1.

International Commission on Radiological Protection: *Radiation Dose to Patients from Radiopharmaceuticals*, ICRP Publication 106, 2008.

Robert's Rules of Order.

University of Utah, *Radiation Safety Manual and Procedures*, Radiation Procedures and Records.

Utah Department of Environmental Quality, Division of Radiation Control, *Utah Radiation Control Rules*.

STANDARD RDRC ACTIVITY REPORT

TO: Radiation Safety Committee

FROM: RDRC Chairman

SUBJECT: Quarterly Activity Report

Following is the Quarterly Activity Report of the Radioactive Drug Research Committee and Human Use Subcommittee of the Radiation Safety Committee for the period of _____ to _____.

A. The following research applications have been received, reviewed, and approved:

1. Research Application #, IRB #, PI surname(s), RU surname(s), *Title of Application*, Approval date