Radiation Safety Program

Contact:
Director of Risk Management – 541-956-7061

Legal References:

- OAR 333, Division 106 – Radiation Protection Services Rules
- OAR 437, Division 2, Subdivision I – Personal Protective Equipment
- OSHA 29 CFR 1910.1096 – Ionizing Radiation
- Oregon Administrative Rules – Control of Radiation (OAR 333-100 through 333-120)

Purpose

The purpose of this program is to ensure the safe use, handling, and control of radiation-producing equipment and sealed radioactive sources used in Rogue Community College (RCC) programs. This program applies specifically to Allied Health, Dental, and Science Department programs that operate dental X-ray machines and sealed source materials for instructional or laboratory purposes. RCC does not use unsealed radioactive materials or therapeutic radiographic equipment.

Standard Precautions

All individuals who work with or near dental X-ray equipment or sealed radioactive sources must treat such equipment as potential exposure hazards. The following safety principles apply to all radiation activities:

- Limit exposure by applying the principles of time, distance, and shielding.
- Only trained and authorized personnel may operate radiation-producing equipment.
- Warning signage and indicator lights must be functional and visible.
- Personnel must follow all posted instructions and manufacturer's operating procedures.
- All radiation equipment must be registered with the Oregon Health Authority (OHA) Radiation Protection Services.

Engineering and Work Practice Controls

Engineering Controls

Engineering controls shall be used to minimize exposure. These include:

- Protective lead barriers and shielding in dental operatories.
- Functional exposure control timers and interlocks.
- Beam-limiting devices and collimators.
- Clearly marked exposure control switches and warning lights.
- Secure, locked storage for sealed radioactive sources when not in use.

Radiation-producing equipment must be inspected at least every two years by a certified service provider in accordance with OHA requirements. Inspection certificates must be posted near each unit.

Work Practice Controls

Work practice controls reduce risk through safe operational procedures:

- Stand behind protective barriers during exposures.
- Never hold image receptors, patients, or specimens during exposures.
- Confirm that only essential personnel are present during X-ray operation.
- Verify exposure settings before each use.
- Sealed sources must remain intact and contained at all times.
- Immediately report any damaged or missing sealed source to Risk Management.

Personal Protective Equipment (PPE)

Radiation exposure levels at RCC are expected to be well below regulatory limits and the use of PPE is not required.

Dosimetry and Monitoring

Radiation exposure levels at RCC are expected to be well below regulatory limits and no ongoing monitoring is required.

Training and Authorization

Only trained and authorized personnel may operate dental X-ray equipment or handle sealed radioactive sources. Training will be provided upon initial assignment and refreshed annually.

Risk Management must approve and track all employee training related to radiation safety. Student training is tracked at the program level.

Training topics include:

- Principles of radiation safety (time, distance, shielding)
- Equipment-specific operating procedures
- Emergency procedures and exposure reporting
- Proper use and care of PPE
- Radiation warning symbols, signage, and labeling requirements

Pregnancy and Exposure

Radiation exposure from dental X-ray and sealed source activities at RCC is extremely low. Pregnant individuals may request additional precautions or reassignment if desired. Such requests will be handled confidentially by program in coordination with the Director of Risk Management. Exposure levels are expected to remain well below regulatory limits for occupational and student populations.

Exposure Limits

RCC adheres to the exposure limits established by the Oregon Health Authority and OSHA:

- Occupational (faculty/staff): 5 rem (50 mSv) per year
- Students/minors: 0.1 rem (1 mSv) per year
- Declared pregnant individuals: below 0.5 rem (5 mSv) during pregnancy

All exposures will be maintained *As Low As Reasonably Achievable* (ALARA).

Injury or Exposure Procedures

If a suspected radiation exposure, equipment malfunction, or sealed source incident occurs:

- Stop all operations immediately.
- Evacuate the area and prevent re-entry until cleared by the Director of Risk Management.
- Notify your supervisor and the Director of Risk Management immediately.
- Seek medical evaluation if exposure is suspected.
- File an online Accident/Injury Report.

Do not resume operation until the equipment has been inspected and cleared by an authorized service provider.

Maintenance and Inspection

All dental X-ray units and sealed sources must be maintained and inspected according to manufacturer recommendations and OHA regulations. Preventive maintenance will be coordinated with RCC Facilities or an authorized service vendor. Records of inspection, calibration, and maintenance will be retained in department safety files and by Risk Management.

Incident Investigation

All radiation-related incidents, equipment malfunctions, or suspected overexposures will be investigated by Risk Management in coordination with department supervisors. The investigation will include a review of operator training, equipment condition, and procedural compliance. Findings will be used to implement corrective actions and improve safety practices.

Record Retention

Risk Management will maintain records of:

- Equipment registration and inspection certificates
- Dosimetry reports (if applicable)
- Training and authorization records
- Maintenance and incident reports

All records will be retained for between 3 years and the duration of employment plus 30 years depending on the record and in accordance with OSHA 29 CFR 1910.1020.

Questions

For any questions, exposure concerns, or reporting of unsafe conditions, contact:

Director of Risk Management
541-956-7061