Personnel monitoring devices are worn by USC faculty and staff that use radioactive materials (RAM) and radiation-producing machines to record radiation exposure. The dosimetry devices DO NOT shield or protect the users against the harmful effects of radiation.

**WHO MUST ENROLL IN THE USC DOSIMETRY PROGRAM?**

USC personnel likely to receive a dose in excess of ten percent (10%) of the annual limits for occupational workers (see Table 1) must wear a personal monitoring device. The Radiation Safety Committee (RSC) mandates personal monitoring devices for the following:

- Open beam X-ray producing devices (except dental x-ray machines)
- Radioactive material in the: (a) PET Imaging Center and (b) Cyclotron and associated hot lab
- Radionuclides that emit: (a) beta particles > 600 keV in quantities exceeding 5 mCi of activity and (b) gamma rays in quantities exceeding 1 mCi of activity.
- Entry into a posted high radiation area
- Nursing staff who care for radiation therapy patients
- Use of non-shielded radiation-producing machines

The Radiation Safety Officer (RSO) will make the final determination whether personal monitoring is required. The RSO may remove the requirement if dosimetry records indicate only minimal exposure over a period of at least one year.

**Table 1. Limits of Radiation Exposure**

<table>
<thead>
<tr>
<th>Body Part</th>
<th>REM Limit</th>
<th>Time Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Body</td>
<td>5</td>
<td>Year</td>
</tr>
<tr>
<td>Lens of the Eye</td>
<td>15</td>
<td>Year</td>
</tr>
<tr>
<td>Hands and Feet</td>
<td>50</td>
<td>Year</td>
</tr>
<tr>
<td>Skin of the Whole Body</td>
<td>50</td>
<td>Year</td>
</tr>
<tr>
<td>Embryo/Fetus*</td>
<td>0.5</td>
<td>Gestation Period</td>
</tr>
</tbody>
</table>

*Declared pregnant worker

**WHAT MONITORING DEVICES ARE USED AT USC?**

Personal dosimeters routinely used at USC are Whole Body (badge) and Extremity (finger ring). These dosimeters are exchanged every month or every quarter as assigned.

**WHAT I NEED TO KNOW...**

- Wear dosimeter(s) in the lab as required.
- Return the dosimeter at due date to obtain accurate exposure readings.
- Report lost/damaged dosimeters to Radiation Safety radsafety@usc.edu immediately.
- Store dosimeter(s) away from radiation sources when not in use. DO NOT take home.
- Pregnant workers may declare their pregnancy per Radiation Safety Committee policy.
- Email radsafety@usc.edu for more information.

All dosimeters are processed commercially and the exposure reports are sent to Radiation Safety for review. Individuals may receive copies of their exposure history by contacting Radiation Safety radsafety@usc.edu. Any exposure that exceeds the maximum permissible limit or is much higher than average is discussed with the individual and the individual’s supervisor.

**References**

USC Radiation Safety Manual
NRC Title 10 CFR Part 20 Section 20.1502