

Area Dosimetry Coordinator (ADC) Information & Procedures



Dosimeters monitor external radiation exposure and provide a lifetime record of exposure. For records to be accurate, dosimeters must be worn continuously during radiation work. They do not protect or shield a person from radiation. UW is required by [WAC 246-221-090](#) to “monitor occupational exposure to radiation ... and shall supply and require the use of individual monitoring devices.”

Dosimeter Series and the ADC

Dosimeters are grouped into Series for ease of distribution and management. Each Series must have an Area Dosimetry Coordinator (ADC). The ADC is responsible for:

- Distribution and collection of dosimeters at the specified frequency (monthly or quarterly)
- Distribution of dose reports to series participants
- Notification to Radiation Safety (RS) of:
 - New participants
 - Terminating participants
 - Name changes
 - Location/series changes
 - Issuing/requesting spare dosimeters

Requesting Dosimetry

To request new dosimetry the following forms are used:

- 1) Dosimetry Application
- 2) Request for Fetal Monitoring

When the dosimetry request application is received, a spare dosimeter will be issued to the individual if needed. While most ADCs will request spare dosimeters from Radiation Safety, some ADCs receive spares every wear period to distribute to staff as needed.

Dosimeters

Individuals should wear only the dosimeter(s) assigned to them. They should be removed from aprons or lab coats and stored in low-radiation areas. They are only to be worn while working at UW facilities to measure occupational exposure and should not be worn during personal medical or dental procedures.

Five Types of Dosimeters

- Luxel Collar/Whole Body
- Ring
- Fetal
- Control
- Area

Collar Dosimeters should be worn on the same spot of the body each time. If a lead apron is worn, the dosimeter should be worn outside the apron.

Ring Dosimeters are available for individuals working with high-energy beta or gamma radionuclides. If wearing gloves, the ring should be worn under the gloves. In instances where a ring interferes with work, a wrist badge may be requested.

Fetal dosimeters are worn in the center of the body. If a lead apron is worn, the fetal dosimeter should be worn inside the apron. The collar dosimeter should still be worn outside the apron. For confidential fetal monitoring, [contact Radiation Safety](#).

Control Dosimeters are issued to measure background radiation. They should be stored in a neutral location, away from radiation and must be returned with the participant badges for the same wear period.

Area Dosimeters are posted to measure radiation in specific areas around campus that are useful to understand the radiation exposure in that area. [Contact Radiation Safety](#) (RS) to request an area dosimeter.

Dosimeter Management

[Contact Radiation Safety](#) to make any changes to dosimeters, including adding or changing dosimeters, and terminating or transferring participants. Because the dosimeters are prepared several weeks before distribution, not all change may be captured in the upcoming wear period.

Distribution and Return

Every effort should be made to return the dosimeters to RS as quickly as possible after the end of wear period. Preferably, less than two weeks after the end of the wear period. All dosimeters must be returned to RS regardless of wear date. Dosimeters for the next wear period will be sent to the ADC a few days before the beginning of each wear period.

Missing, Damaged, or Contaminated Dosimeters

As soon as a dosimeter is found to be missing, damaged or contaminated, [contact RS](#) for a replacement dosimeter and submit a [Missing/Damaged Dosimeter Form](#).

If a dosimeter becomes **contaminated** with radioactive material or by human or animal fluids or other toxins, [contact RS](#) for further guidance.

If you suspect a dosimeter was **exposed to radiation** when it was not worn by the participant, collect the dosimeter and [contact RS](#) for a replacement dosimeter immediately.

For **damaged dosimeters**, return as much as possible to RS with a [Missing/Damaged Dosimeter Form](#).

Dose Reports

Dose reports are e-mailed to the ADCs either quarterly or monthly, depending on the wear frequency of the dosimeters. The reports list doses at different depths, described below. Blank doses mean the dosimeters were either missing or unused in that wear period.

Personnel Dosimeters		November 2020			
Name	Participant #	DDE	LDE	SDE	SDEM

- 1) **DDE** – Deep Dose Equivalent applies to external whole-body exposure at a disuse depth of 1 cm (1,000 mg/cm²)
- 2) **LDE** – Lens Dose Equivalent applies to the external exposure of the lens of the eye at a tissue depth of 0.3 cm (300 mg/cm²)
- 3) **SDE** – Shallow Dose Equivalent applies to the external exposure of the skin at a tissue depth of 0.007 cm (7mg/cm²) averaged over an area of one square centimeter.

- 4) **SDEM** – Shallow Dose Equivalent Extremity measures the same depth as SDE (0.007 cm), but is measured using a ring dosimeter and represents extremity dose.

ALARA Reports

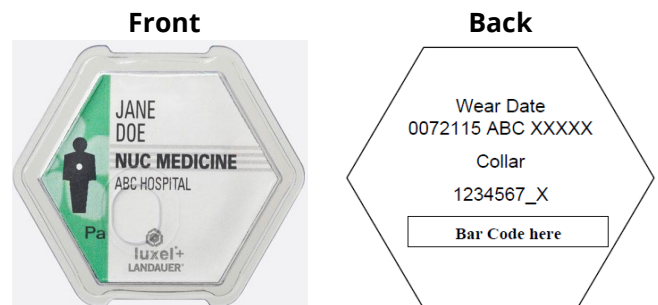
ALARA stands for As Low as Reasonably Achievable. In practice, it means UW Radiation Safety monitors dosimetry results and investigates anyone that that exceeds ALARA 2 doses, and evaluates doses above ALARA 1 levels. Participants are contacted directly by RS during the investigation.

Dose Type	ALARA Level 1 (mrem)	ALARA Level 2 (mrem)
DDE	125	375
LDE	375	1125
SDE	1875	5625
SDEM	1250	3750

Dosimeter Identification

Luxel Dosimeter

- **Front side information:** institution, department name, employee name, wear dates, location icon (shows where dosimeter should be worn).
- **Back side information:** wear date, UW account number, series code, participant number, dosimeter placement (e.g., collar), serial number, barcode.



Ring Dosimeter

This dosimeter contains the following information: serial number, participant name, wear date, R or L for right or left hand, ring size, frequency, series code, and participant number.

