



SEC³URE RADIATION SAFETY | Frequently Asked Questions

Who is required to be monitored for radiation exposure?

We are surrounded by radiation in our daily lives. Radiation monitoring should be considered for those who work in occupations where risks may be prevalent due to exposures from X-ray equipment or in labs where radioactive research materials are utilized and, of course, nuclear power plants.

Medical facility administrators and Radiation Safety Officers determine who will be monitored for occupational exposure. Even in environments where exposure risks may be minimal, it is still good policy to take the proper precautions in order to monitor exposure over time. It is important for any person that has the potential of receiving work-related occupational exposure to be monitored. Monitoring allows the tracking of individual dosage to determine the risks from any exposure received over time.

What is work-related occupational exposure?

Occupational exposure occurs during the performance of job duties and may place a health-care worker at risk of ionizing radiation exposure.

What is cumulative dose?

Cumulative dose is the total dose resulting from repeated exposures of ionizing radiation to an exposed healthcare worker to the same portion of the body, or to the whole body, over a period of time.

What is ALARA?

As defined by the U.S. Nuclear Regulatory Commission (NRC: Title 10, Chapter 20.1003):

*"ALARA is an acronym for **"as low as is reasonably achievable."** It means making every reasonable effort to maintain exposures to radiation as far below the dose limits in this part as is practical consistent with the purpose for which the licensed activity is undertaken, taking into account the state of technology, the economics of improvements in relation to state of technology, the economics of improvements in relation to benefits to the public health and safety, and other societal and socioeconomic considerations, and in relation to utilization of nuclear energy and licensed materials in the public interest."*

Why is radiation safety training important?

Just like anything else, knowledge is power. The SEC³URE University Annual e-Pass includes comprehensive radiation safety training with immediate compliance credit once completed. By completing the training course, "*Radiation Safety*," you will recognize how to protect yourself as well as others. We all play a role in a safe and SEC³URE healthcare experience.



What is ionizing radiation and how is it measured?

From World Health Organization and U.S. Environmental Protection Agency sources:

Energy emitted from any source is generally referred to as radiation. Examples include heat or light from the sun, microwaves from an oven, X-rays from an X-ray tube, and gamma rays from radioactive elements. **Ionizing radiation** is radiation with enough energy so that during an interaction with an atom, it can remove tightly bound electrons from the orbit of an atom, causing the atom to become charged or ionized. Ionizing radiation can affect the atoms in living things, so it poses a health risk by damaging tissue and DNA in genes.

Effective dose describes the amount of radiation absorbed by a person, adjusted to account for the type of radiation received and the effect on particular organs.

In the United States, the unit used to measure effective dose is called the '**millirem**' (mrem), which is one-thousandth of a rem. Humans can typically receive one (1) mrem dose by simply taking one coast-to-coast flight or by wearing a watch with a luminous dial for a year. People are exposed to ionizing radiation through natural/background (terrestrial and space) and medical (e.g., x-rays) sources. The National Council on Radiation Protection and Measurements (NCRP) has calculated that the average yearly radiation dose per person in the U.S. is 620 mrem.

Based upon U.S. Nuclear Regulatory Commission regulations (USNRC), Title 10, Part 20, Code of Regulations, the annual occupational radiation exposure limits should be no more than: [†]

- Whole body, blood-forming organs, gonads: 5,000 mrem/year
- Lens of eye: 15,000 mrem/year
- Extremities and skin: 50,000 mrem/year
- Fetal: 500 mrem/gestation period
- General Public: 100 mrem/year

[†] *While many states have adopted these occupational dose limits, others may follow stricter levels.*

What is a dosimeter and how does it work?

A dosimeter measures radiation exposure due to x, gamma and beta radiation with the Landauer® optically stimulated luminescence (OSL) technology. The OSL radiation detector inside the dosimeter is the thin strip of specially formulated aluminum oxide (Al₂O₃) crystalline. When analyzed, the Al₂O₃ strip is stimulated with selected frequencies of laser light causing it to luminesce in proportion to the amount of radiation dose and the intensity of stimulation light. (Source: [Landauer® Luxel®+ product FAQ](#))

A **wear dosimeter** travels with you from facility to facility to measure your occupational radiation dose. Keep the **control dosimeter** in a safe place at your home or office. When both dosimeters are returned at the end of the monitoring quarter, the NVLAP lab subtracts the exposure levels indicated on the **control** dosimeter from the **wear** dosimeter exposure levels to provide your occupational radiation dose. This accounts for any radiation doses the dosimeters receive during transit or through everyday background exposure.

What is an NVLAP lab?

The **National Voluntary Laboratory Accreditation Program** (NVLAP), is an annual accreditation program for testing laboratories. NVLAP's Ionizing Radiation Dosimetry field of testing was established in 1984 to implement the U.S. Nuclear Regulatory Commission's (NRC) requirement that all dosimeters used by licensees to comply with federal law must be processed and evaluated by a NVLAP accredited laboratory.

How do I use my SEC³URE whole-body dosimeters?

IntelliCentrics ships each SEC³URE dosimeter pair individually wrapped in cellophane. Remove the dosimeters from the cellophane, snap the **wear dosimeter** into the reusable clip-holder for use, and discard the cellophane. Use the wear dosimeter(s) beginning on the wear date or as close to that date as possible. Keep the **control dosimeter** in a safe place at your home or office. *Do not use the control dosimeter for any other purpose!*



An icon on the face of the SEC³URE dosimeter identifies the correct placement of the dosimeter. Wear personnel dosimeters with the icon facing away from the body. Dosimeters should be worn on the outside of lead aprons. Dosimeters should be worn during all working hours to record occupational exposure. Do NOT wear dosimeters during non-working hours while undergoing diagnostic or medical procedures where exposures would not be part of your work-related occupational exposure history.

At the end of the wear period, pop-out the used SEC³URE wear dosimeter out of the holder and replace it with the dosimeter for the new wear period. Return the used wear dosimeter along with the SEC³URE control dosimeter of the same wear date to IntelliCentrics to process for exposure.

Are there any precautions with using the SEC³URE whole-body dosimeters?

Dosimeters should not be worn outside the workplace, or during personal medical procedures. Store control dosimeter outside of X-ray or imaging rooms away from radiation sources.



When traveling by air, before you go through airport security screening, let the TSA agents know to hand-check for the dosimeter because it cannot go through the X-ray machines.

Where do I send my SEC³URE dosimeters at the end of the quarter?

In the last week of the quarter, you will receive a new set of dosimeters by mail for the next quarter in a yellow envelope. A pink return envelope will be included. Place your previous wear and control dosimeters in the postage pre-paid, pre-addressed, pink envelope provided. Seal and then mail it via US Postal Service (*mailbox or Post Office*).

What if I lose the padded pink return envelope?

Return both dosimeters in a padded cushioned bubble mailer* to:

IntelliCentrics - SEC³URE Radiation Safety
c/o Mobiltech Global Services
4710 Mercantile Drive
Fort Worth, TX 76137

* Do not use a non-padded envelope



What do I do if I lose my dosimeters?

From your SEC³URE account, go to My Subscriptions > Add Services and purchase a **Lost Dosimeter Replacement**. There is a replacement fee of \$49.00 per lost dosimeter.

You may also call ☎ (817) SEC3URE (732-3873) or email ✉ CustomerService.US@IntelliCentrics.com. There is a replacement fee of \$49.00 per lost dosimeter.

What do I do if I lose the reusable clip-holder?

Please call us at ☎ (817) SEC3URE (732-3873) or email ✉ CustomerService.US@IntelliCentrics.com and we will provide a replacement. Some healthcare facilities may also keep extra clips, so you may also check with the facility Radiation Safety Officer (RSO).

What should I do if I do not receive a new quarterly dosimeter shipment?

Please call us at ☎ (817) SEC3URE (732-3873) or email ✉ CustomerService.US@IntelliCentrics.com

What do I need to do if I change addresses?

Please call us at ☎ (817) SEC3URE (732-3873) or email ✉ CustomerService.US@IntelliCentrics.com.

How and when do I receive my SEC³URE exposure data?

At the end of each wear period, dosimeters are returned for processing and then analyzed. Your SEC³URE radiation exposure dashboard will update automatically within fifteen (15) business days from the receipt of the returned dosimeters.

Where can I view my exposure data and for how long is it valid?

Your [SEC³URE.com](https://SEC3URE.com) account will have all updated radiation exposure data reflecting your lifetime, yearly, and quarterly exposures. The exposure analysis generated from your returned wear and control dosimeters will populate automatically displaying the previous quarterly period. Your SEC³URE dashboard will show if you are within ALARA guidelines, at risk, or exceeding ALARA guidelines.

Can my Corporate Admin view my radiation exposure requirements and data?

Yes. SEC³URE Corporate Administrators have access to reporting that shows if you have fulfilled both the radiation safety training and exposure monitoring requirements. Additionally, they will also have all updated radiation exposure data reflecting your lifetime, yearly, and quarterly exposures. Corporate administrators should look for Radiation reporting under the **Reports** tab after they log into [SEC³URE.com](https://SEC3URE.com).

Where do I send my radiation tracking reports if I have an employer or self-purchased dosimeter?

Please forward your most recent radiation dosimetry report from an approved National Voluntary Laboratory Accreditation Program (NVLAP) lab so that your account can be updated. These exposure reports can be uploaded and submitted directly through your [SEC³URE.com](https://SEC3URE.com) account as Radiation Exposure credentials. Please verify that your social security number is not visible on your exposure report. We cannot accept radiation tracking reports via fax.

May I provide a letter from my employer attesting that I am included in my company's radiation monitoring program?

Yes. At a minimum, the statement from an HCIRs' employer must show: 1) The HCIR / Rep is an active participant in their company's radiation dosimetry program, and 2) The HCIR's / Rep's exposure data will be provided to their SEC³URE facilities upon request (*please provide contact information*). This attestation must be on company letterhead, signed by an authorized company official, and provided through SEC³URE annually. [*Click here to see an example Employer Attestation letter.*](#)

What do I need to do if I change companies?

If or when you leave one company for another it is not a problem. We are tracking you, not your company. Simply update your profile when you start working for a new company. You still keep your dosimeter and no additional fees will occur. You will need to not only change your company information but update your facility profile as well.

If your employer requests a radiation exposure history, an NRC Form 5 will provide the required data. Please call us at ☎ (817) SEC3URE (732-3873) or email ✉ CustomerService.US@IntelliCentrics.com.

What if I already completed a radiation safety course?

If you have taken a radiation safety course within the last 12 months, you may upload and submit your completion certificate directly through your SEC3URE.com account for approval. If it is an accredited course, then it will be accepted. If not, you will need to complete an accredited radiation safety course like the one available through your [SEC3URE Passport](https://SEC3URE.com) account. Log into your account now at SEC3URE.com and complete the course, “Radiation Safety.”

What is the IntelliCentrics SEC3URE Radiation Exposure Package refund policy?

You may request a refund of payment for the Radiation Exposure Package within thirty (30) days of purchase. Refunds are subject to a 30% fee for dosimeter set restocking. Refund requests will be processed after the dosimeter set is returned to IntelliCentrics. No partial or full refund option is available after thirty (30) calendar days from the purchase date.

Where may I review the - Supplemental Terms of Use again?

Read the [SEC3URE Radiation Exposure Package – Supplemental Terms of Use \(*PDF\)](#).

What do I need to do if I am pregnant?

If you choose to be monitored by voluntarily declaring your pregnancy, please call either ☎ (817) SEC3URE (732-3873) or email ✉ CustomerService.US@IntelliCentrics.com.

IntelliCentrics will send you a second fetal monitor dosimeter monthly for the duration of your pregnancy. It is not uncommon to be pregnant and still work around radiation. The second dosimeter is to be worn on the INSIDE of the lead apron on your waist so that we can track not only *your* dose but any potential dose that your baby might be exposed to. While pregnant you need to stick to some strict rules:



- Step out of the room when an exposure is being made.
- Always wear a lead apron while in radiation exposed rooms.
- Keep as much distance from the source of radiation as possible.

When you are no longer pregnant, please call ☎ (817) SEC3URE (732-3873) or email us at ✉ CustomerService.US@IntelliCentrics.com to cancel the second fetal monitor dosimeter.

Why is there a radiation symbol appearing on my facility check-in badge?



We all play a role. If another employee in a facility spots a radiation symbol on the check-in badge, they are trained to ensure you are also wearing a radiation monitoring dosimeter. You have indicated that you are potentially exposed to ionizing radiation during your facility visits and are included in a radiation monitoring program.

Likewise, if you are spotted in a radiation environment and your badge does NOT have the radiation icon, *they are going to ask if you should be there!*

Your badge is a visual indicator that you support the facility's and the healthcare community's Radiation Safety goals.

Is my job in jeopardy if I get too high of a dose?

If you have received too high of a dose, your company will need to review your situation and propose an appropriate course of action to minimize future exposure. If you reach too high of a dose at one time, you may be required to avoid work activities where there is the potential to be exposed to additional radiation doses.

These rules are set by regulations and will be strictly enforced for your protection. For your protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

Will I be notified if I exceed occupational radiation exposure limits?

IntelliCentrics will provide you with notification if you receive more than 10% of the annual regulatory limits for Occupational Radiation Exposure. We will complete and then send the form, "[HCIR ALARA Level 1 Notification](#)," so you may keep your employers and facility RSOs informed. This allows everyone the opportunities to review the situation and propose an appropriate course of action to minimize any future exposure.

Though extremely rare, should you receive either a Level 2 or Level 3 ALARA notification, IntelliCentrics will send the survey, "[HCIR ALARA Levels 2 or 3 Badge Survey](#)," so that it may be completed, reviewed, and signed by you as well as your Employer Administrators, Supervisors, or RSOs.

If radiation is in use how do I make sure I'm safe?

For your protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO). While working in a room with radiation you should always try and stand as far away as possible. 6 feet is always a good idea, but more is better. If the room has a lead shield or a wall to stand behind that would be a better option.

What if I'm in a clinical area but not exposed?

You can still be at risk of receiving an occupational dose even if you do not work in rooms that utilize ionizing radiation. For your own protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

You might not even think about it but, if you walk in a room where they are using x-rays to grab something even for a moment, you are still receiving an occupational dose. Unlike in radiology departments where there is a barrier of lead between rooms to stop radiation from traveling from room to room. Surgery rooms do not have this barrier in place. While you might be working in one room and X-rays are being used in another room you can still be receiving a dose. While it is a small dose, it is none-the-less a dose that adds to your total cumulative dosage.

Do I still need a dosimeter if I step away from radiation equipment?

While creating distance between you and the source of radiation will reduce your occupational exposure, you still need to be monitored for any potential dose you may/will receive while working around radiation. For your own protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

Does wearing a lead apron prevent me from getting a dose?

Wearing a lead apron will protect the majority of your body; it does not protect the whole body from radiation. Your arms, legs, and head are still exposed to the radiation. For your protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

What if I only work in an MRI suite occasionally?

MRI can give different information about structures in the body than can be obtained using a standard x-ray, ultrasound, or CT exam. For example, an MRI exam of a joint can provide detailed images of ligaments and cartilage, which are not visible using other study types. In most MRI devices, an electric current is passed through coiled wires to create a temporary magnetic field around a patient's body. Radio waves are sent from and received by a transmitter/receiver in the machine, and these signals are used to produce digital images of the area of interest. To date, there is little to no harmful radiation being produced that we know. For your protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

What if I only work in a CT suite occasionally?

The same rules apply to CT as fluoroscopy / x-ray. CT or CAT scanner utilizes x-ray radiation. The radiation comes from the center of the machine. You should try to keep a 6-ft. distance from the source while it is being utilized. While the scanner uses x-ray radiation, the dose that comes from it is 10 times that of one conventional x-ray. While working in CT, you should always try to step out of the room when the scanner is in use and observe from behind the window. For your protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

What if I work in Special Procedures?

While in special procedures the same rules as surgery apply. It is for all intents and purposes an O.R. suite. The room utilizes a fluoroscopy machine. Again, you should try to stay behind the window or the glass shield while x-rays are in use.

For your protection, closely follow ALL safety guidance determined by facility Radiation Safety Officers (RSO).

Do you have any additional questions?

☎ Call us at (817) SEC3URE (732-3873)

✉ Email us at CustomerService.US@IntelliCentrics.com