SESLHD PROCEDURE COVER SHEET

Health
South Eastern Sydney
Local Health District

NAME OF DOCUMENT	Radiation Safety - Record Keeping
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EXECUTIVE SPONSOR or EXECUTIVE CLINICAL SPONSOR	Executive Director Operations
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KEY TERMS	Radiation safety, ionising radiation, x-rays, radioactive substances, records
SUMMARY	Procedure to ensure that all records relating to radiation safety are maintained in compliance with the appropriate legislation

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1. POLICY STATEMENT

South Eastern Sydney Local Health District (SESLHD) is committed, through a risk management approach, to protecting employees, contractors, students, volunteers, patients, members of the public and the environment from unnecessary exposure to radiation arising from systems and processes which use radiation apparatus and radioactive substances, whilst maintaining optimum diagnostic and therapeutic quality, therapeutic efficacy and patient care.

2. BACKGROUND

This procedure lists the record keeping requirements with regard to radiation safety.

3. RESPONSIBILITIES

The **Responsible Person** must keep sufficient evidence to be able to demonstrate, at any time, that:

- justification of each medical exposure has been carried out
- optimisation of protection and safety for each medical exposure has been carried out.

3.1 **Department heads for centres using radiation –** Records must be kept in accordance with Section 4.2

3.2 **Department head of diagnostic radiology –** Records must be kept in accordance with Sections 4.3.1, 4.3.5 and 4.4.1

3.3 **Department head of nuclear medicine –** Records must be kept in accordance with Section 4.3.2

3.4 **Department head of radiation therapy/oncology –** Records must be kept in accordance with Section 4.3.3 and 4.4.2

3.5 **Department head for centres possessing and/or using radiation producing apparatus or devices containing radioactive sources –** Records must be kept in accordance with Section 4.3.4.

3.6 **Department head of a centre which administers radiation or a radioactive substance to a patient –** Records must be kept in accordance with Sections 4.3.5 and 4.3.6.

3.7 **Department head of department in which an accident occurs –** Records must be kept in accordance with Section 4.3.7.

3.8 **Department head of a centre that discharges a radioactive substance –** Records must be kept in accordance with Section 4.3.8.

3.9 **Occupier of a premises in which an area monitoring device resides –** Records must be kept in accordance with Section 4.3.9.

3.10 **Occupier of a premises in which radioactive substances are used and/or stored -** Records must be kept in accordance with Section 4.4.3.

3.11 Department head of centre in which a radioactive source device resides – Records must be kept in accordance with Section 4.4.4.

4. PROCEDURE

4.1 Inventory of radioactive sources and radiation apparatus

A documented inventory of all radioactive sources, substances and radiation apparatus must be kept and up to date. Specific requirements are enumerated in SESLHDPR/550 and SESLHDPR/544.

4.2 Personal records

4.2.a Personal monitoring records for each person issued with a dosimeter must be kept and maintained. The record must contain the particulars from Clause 18 of the Radiation Control Regulation.

4.2.b details of any delegation of responsibilities by the Responsible Person or a radiological medical practitioner.

4.2.c training of personnel in radiation protection

4.3 Records required by the Code for Radiation Protection in Medical Exposure (ARPANSA 2019) or legislation

4.3.1 Diagnostic radiology

For each procedure; information necessary for retrospective assessment of doses, including the number of exposures and the duration of fluoroscopic radiological procedures

.4.3.2 Nuclear medicine

For each procedure, the radionuclide, radiopharmaceutical form and confirmed activity administered to the patient.

4.3.4 External beam radiation therapy or brachytherapy

- a description of the planning target volume or field;
- the absorbed dose representative of the planning target volume or treated volume;
- the maximum and minimum absorbed doses delivered to the planning target volume, or equivalent alternative information on absorbed doses to the planning target volume;
- the absorbed doses to relevant tissues or organs as specified by the radiological medical practitioner
- for external beam radiation therapy, the dose fractionation and the overall treatment time

4.3.5 Image guided interventional procedures

Information necessary for retrospective assessment of doses, including the duration of fluoroscopic components and the number of images acquired.

4.3.6 Radiation-producing or radioactive source containing equipment:

When an operator discovers a fault, error or unusual operating condition in such equipment, a record of the details must be kept.

When equipment has undergone repair, maintenance or modification, a written record must be kept detailing the work performed.

When equipment has an identified fault that could compromise patient safety, diagnosis or treatment and where the fault could be one which might be present in similar equipment, the details of the fault must be reported to the EPA and a record maintained of such faults and the necessary corrective maintenance performed.

4.3.7 In the event of the death of a patient with radioactive material above the relevant activity exemption level in situ

The radioactivity of any permanent implant or unsealed radioactive material remaining in body must be calculated and documented.

4.3.8 Prior to approving a radiation procedure for a pregnant patient that may result in a radiation dose in excess of 1 mSv to an embryo or foetus

An estimate of the expected radiation dose to the embryo or foetus must be made and recorded.

4.3.9 Following a radiation accident

A record of any radiation accidents that have occurred must be kept, containing the following:

- particulars of the accident indicating, as far as is possible, the place where it occurred and the period during which emission of radiation was uncontrolled
- the name of any occupationally exposed person or other person who was there during that period
- an estimate of the radiation dose to which any person may have been exposed
- details and results of any medical examinations undertaken as a result of the accident
- particulars of the area over which any radioactive substances may have been dispersed
- particulars of any steps taken to rectify the accident
- the time at which the accident was reported to the employer
- the probable cause of the accident
- particulars of any investigations conducted into the accident, together with the results of the investigations
- details of any steps taken to reduce the risk of a similar accident occurring in the future.

4.3.10 Radioactive substances discharged from a premises

A record of radioactive substances discharged from a premises must be kept, containing the following information:

- the type of radioactive substances discharged
- an estimate of the total activity of the radioactive substances discharged
- the manner in which the radioactive substances were discharged
- the date on which the radioactive substances were discharged.

4.3.11 Area monitoring devices

For each area monitoring device that is used by direction of the EPA, a record containing the following particulars must be kept:

- the date on which the device was acquired
- the date of each occasion on which the device was repaired and the details of the repairs
- the date on which the device was last calibrated.

4.4 Test results where required

For registered devices, apparatus and premises, this may include:

- QA results
- wipe tests on radioactive sources.

4.4.1 Diagnostic imaging apparatus

A record must be kept of all maintenance, inspection reports and summaries of QA tests undertaken on all registered radiation apparatus.

4.4.2 Radiotherapy apparatus

A record must be kept of all maintenance, inspection reports and summaries of QA tests undertaken on all registered radiation apparatus. Further, a copy of the registration certificate must be kept at the apparatus location.

4.4.3 Premises where radioactive substances are kept or stored

For each radioactive substance/source kept on the premises, a record containing:

- the description of the source
- the date the source was received at the premises
- the supplier of the source
- the date(s) the radioactive source was assayed
- the person performing the assay
- the results of any wipe test performed on the source
- the date on which the source was discharged or otherwise disposed.

All movements of a radioactive source to and from a storage area must be recorded.

A copy of all QA reports carried out on the premises must be kept at the premises.

4.4.4 For devices containing radioactive sources

The following records must be kept:

- all maintenance reports and summaries of QA tests undertaken on sealed source device
- the sealed source certificate(s), including the manufacturers recommended working life
- a record relating to the sealed-source device containing
  - the date received
  - name of the supplier and/or manufacturer
  - the nominal activity of the radioactive substance(s) and assay date(s).

4.4.5 Calibration, dosimetry and quality assurance

- results of calibrations and periodic checks of the relevant physical parameters and clinical protocols selected during treatment of patients
- dosimetry of patients,
- local assessments and reviews made with regard to diagnostic reference levels
- records associated with the quality assurance program

4.4.6 Exposure records for volunteers subject to medical exposure as part of a program of biomedical research.

4.5 Storage of records, including records of staff occupational exposure

4.5.1 Records subject to Paragraphs 4.2 and 4.3

These records must be kept until such time as the Director-General of the EPA gives consent to dispose of them.

4.5.2 All records subject to Paragraph 4.4

These records must be kept at the site of the registered device, apparatus or premises for a period of six years after the event requiring documentation.

5. DOCUMENTATION

Nil

6. AUDIT

All records listed in this procedure should be available for audit.

7. REFERENCES

[1] Code for Radiation Protection in Medical Exposure (C-5 ARPANSA 2019)

[2] *Radiation Control Regulation 2013* (NSW)

8. VERSION AND APPROVAL HISTORY

Date	Version	Version and approval notes
August 2010	draft	Brent Rogers, RSO
November 2010	Revised draft	Richard Smart, RSO
February 2011	0	Approved by Combined Clinical Council
October 2012	1	Broken links to SESLHNPD/47 and SESLHNPD/63 fixed
December 2015	2	Periodic Review
October 2016	2	Updates endorsed by Executive Sponsor
November 2019	3	Updates endorsed by Executive Sponsor
July 2023	3.1	Minor review. Approved by Executive Sponsor.