

Working with Radiation

UniSA Allied Health and Human Performance, Medical Radiation Program, 2020

Undergraduate student guidelines for working with ionising radiation.

Radiation Guidelines

☀ The South Australian Radiation Protection and Control Act, 1982, and the Ionising Radiation Regulations, 2000, govern all use of ionising radiation in South Australia.

☀ Legislation require that the ALARA principle (As Low As Reasonably Achievable) is adhered to at all times.

☀ The University has adopted dose constraint for staff and students working with ionising radiation, of 1 mSv per year, which is the dose limit for a member of the public. (The current effective dose limits for radiation workers is 20 mSv per year).

☀ Personal radiation monitors (Luxels) are issued to all medical radiation students (See the Medical Radiation Luxel policy)

Undergraduate students working with radiation at the University must be under continuous supervision of a licensed radiation worker. This licensed person is responsible for the safe use of ionising radiation.

When students are using radiation sources and equipment at hospitals they are required to read and follow the radiation safety manual of the department that they are working in. At all times, the University requirements are the *minimum* standards that must be followed. Students must always be supervised by a holder of a radiation license.

☀ The Allied Health and Human Performance Radiation safety Officer is Dr Greg Brown; room BJI-29B, phone number 83022557.

Pregnancy

☀ Students must notify the Radiation Safety Officer if they become pregnant. A dose limit of 1mSv per year is allowed to the foetus, which is treated as a separate individual from the mother. Enhanced radiation hygiene and monthly foetal monitor changes should keep foetal exposure far lower. Pregnancy will not prevent you from continuing in your undergraduate program, provided safe work practices are employed whilst working with ionising radiation. Undergraduate medical

radiation students receive doses of less than 10 uSv per year up to 250 uSv in Nuclear Medicine.

☀ There are some restrictions to clinical rostering which may need to be considered to ensure exposure remains at extremely low levels. The following areas are recommended to be avoided during pregnancy:

Diagnostic Radiography:

☀ Fluoroscopy and angiography in a suite without permanent protection such as a control booth.

☀ Mobile image intensifier radiography, for example theatre work.

Radiation Therapy:

☀ Brachytherapy (due to risk of incident with radiation sources and use of fluoroscopy without permanent protection)

☀ Unsealed source therapies such as I^{131}

Nuclear Medicine:

☀ Prolonged close proximity (less than 1-2m) with therapy patients

☀ Preparation of Iodine doses or cleaning up Iodine spills.

☀ Preparation or administration of PET and therapy doses.

If you are pregnant please inform Dr Greg Brown, the UniSA Allied Health and Human Performance Radiation Safety Officer, where your particular situation will be assessed. It is necessary to inform the clinical course co-ordinator and hospital clinical supervisor. This will be discussed with you and will only take effect with your permission.

Further Reading:

UniSA, Medical Radiation Luxel Policy
UniSA Ionising Radiation Safety Policy <https://i.unisa.edu.au/policies-and-procedures/university-policies/hr/hr-29/>

International Commission on Radiological Protection (ICRP) Publication 103, 2007 Recommendations of the ICRP.

