

# PROTECTING UNBORN AND BREAST-FED CHILDREN FROM THE EFFECTS OF MATERNAL EXPOSURE TO CHEMICALS, BIOLOGICALS, ANIMALS AND RADIATION PROCEDURE

## SCOPE

This procedure relates to all activities under the management and control of Monash University in Australia and applies to pregnant or breast-feeding workers.

## PROCEDURE STATEMENT

This procedure sets out the appropriate measures that must be taken to control the exposure of any pregnant or breastfeeding staff member or student working with chemicals, biologicals, animals or radiation.

### 1. Abbreviations

mSv	Millisieverts
OH&S	Monash Occupational Health and Safety
OHS	Occupational Health and Safety
OSL	Optically Stimulated Luminescence Dosimeter
RPO	Radiation Protection Officer
RSO	Radiation Safety Officer
SDS	Safety Data Sheet

### 2. Risk Management Process

The types of hazards that must be considered are:

- Chemicals
- Biological materials
- Animals
- Radiation

- 2.1 Determine the duration and frequency that you will be exposed to the identified hazard.
- 2.2 Consult with your Performance Manager/Supervisor and/or Safety Officer for an initial assessment. If needed, contact your Biosafety/Radiation Safety Officer, [OHS Consultant/Advisor](#) or the [OHS Health team](#) to seek further advice.
- 2.3 Complete a risk assessment or review existing risk assessments following the [OHS Risk Management Procedure](#), using the [Risk Management Guidelines](#). The “Restricted Risk Assessment” option may be used.
- 2.4 Based on the level of risk to the unborn or breast-fed child that has been identified in the risk assessment, consult with your Performance Manager/Supervisor and the [OHS Health team](#) to determine if the level of risk associated with the activity is acceptable.
- 2.5 Implement the identified controls and monitor activities for any variation that may create a new hazard or increase a risk to the unborn or breast-fed child.

### 3. Where to Find Further Information

- 3.1 Toxicological information for a chemical can be obtained from:
- Safety Data Sheet (SDS) on [Chemwatch](#);
  - Labels on chemical containers. These should contain statements which mention the 'unborn child' or 'pregnancy'.
- 3.2 Information on biological agents or substances derived from animals can be obtained from:
- Safety Data Sheet (SDS) on [Chemwatch](#);
  - Peer-reviewed research articles; or,
  - [Occupational Physician](#) or the worker's treating doctor.
- 3.3 The following terms indicate potential effects on the unborn child:
- Embryotoxic – meaning toxic to the embryo
  - Fetotoxic/foetotoxic – meaning toxic to the foetus
  - Teratogenic – meaning causes developmental abnormalities in the foetus

### 4. Responsibility for Implementation

A comprehensive list of OHS responsibilities is provided in the [OHS Roles, Responsibilities and Committees Procedure](#). The specific responsibilities with respect to this procedure are summarised below.

**Head of Academic/Administrative Unit and Performance Manager/Supervisor:** The Head of the academic/administrative unit and the relevant Performance Manager/Supervisor must:

- Make it clear to workers who declare pregnancy that subject to meeting University OHS requirements, the worker may choose whether or not to:
  - Work with chemicals, biologicals, animals or radiation during the pregnancy, and/or
  - Work with chemicals, biologicals, animals or radiation during breast-feeding;without fear of this decision impacting on their career progression/continuation in accordance with the University's [Equal Opportunity Policy](#).
- Maintain the worker's personal information in accordance with the University's [Data Protection and Privacy Procedure](#), if pregnancy is disclosed.
- Where the worker elects to continue working with:
  - Chemicals, biologicals, animals or radiation during pregnancy; or
  - Chemicals, biologicals, animals or radiation during breast-feeding;review, in conjunction with Monash Occupational Health & Safety (OH&S), appropriate risk assessments and put in place control measures to reduce these risks to a negligible level (where no significant risk is foreseeable) in accordance with this procedure.
- Facilitate, in accordance with current workplace agreements, the modification of a worker's duties in accordance with special needs during pregnancy or breast-feeding.
- Create an environment where:
  - All workers who work with chemicals, biologicals, animals or radiation understand the requirements of this procedure;
  - Workers who are able to or intend to become pregnant, and whose role entails potential and actual exposure to chemicals, biologicals, animals or radiation, feel comfortable to declare their intention to become pregnant or their pregnancy and/or breast-feeding; and
  - All co-workers and supervisors understand the special needs of a pregnant worker's unborn child or breast-fed child in relation to chemical, biological or radiation safety or work with animals.

## Workers:

- Pregnant workers with potential risk of exposure to chemicals, biologicals, radiation and animals should declare their pregnancy to their Performance Manager/Supervisor and/or Head of academic/administrative unit at the earliest possible time, on the understanding that this declaration of personal information will be handled in accordance with the [Data Protection and Privacy Procedure](#).
- Workers who are either pregnant, considering pregnancy or breast-feeding should seek advice from the [OHS Health team](#) at the earliest possible time. Such consultations are strictly confidential.
- Workers who are pregnant, considering pregnancy, or breastfeeding must minimise their exposure to chemicals, biologicals, radiation and animals by adhering to the modified duties that have been determined.
- Workers who are pregnant, considering pregnancy, or breastfeeding must report immediately any suspected high exposures to their Performance Manager/Supervisor, Safety Officer, Biosafety Officer, Radiation Safety Officer, [OHS Consultant/Advisor](#) or the [OHS Health team](#).

**Radiation Protection Officer (RPO):** The RPO is responsible for:

- Providing technical advice on Ionising Radiation safety issues to the pregnant or breast-feeding radiation worker;
- Routinely inspecting their workplace; and
- Examining and maintaining copies of the pregnant radiation worker's 4 weekly Optical Stimulated Luminescence Dosimeter (OSL) results and instigating investigation when needed to ensure relevant dose limits are not exceeded.

**Radiation Safety Officer (RSO):** The RSO is responsible for:

- Providing any pregnant radiation worker who wears a OSL for their work with 4 weekly OSL monitoring report for the duration of their pregnancy;
- Assisting the pregnant or breastfeeding radiation worker and their supervisor with implementing any agreed changes to their work environment or practices; and
- Working with the RPO to investigate the dose obtained by a pregnant radiation worker, if necessary, to ensure relevant dose limits are not exceeded.

## 5. Tools

The following tools are associated with this procedure:

[Pregnancy and Work OHS Information Sheet](#)

## 6. Records

For OHS Records document retention please refer to:

[Monash University OHS Records Management Procedure](#)

## DEFINITIONS

A comprehensive list of definitions is provided in the [Definitions tool](#). Definitions specific to this procedure are provided below.

Key word	Definition
Breastfeeding Radiation Worker	A breast feeding worker is a person that is breastfeeding a child and still continues their duties as a radiation worker.
Genetic Disorder	Genetic disorders of the parents, or certain genes carried by the parents and chromosome aberrations that occur during the development of the embryo, may result in genetic diseases in the child such as Huntington's chorea, sickle cell anaemia, Down's syndrome and cystic fibrosis. It is estimated that genetic disorders are responsible for 25% of malformations in unborn children.
Occupational Exposure	Occupational exposure is the exposure of a person to radiation that occurs in the course of that person's work or study.
Pregnant Radiation Worker	A pregnant radiation worker is a radiation worker who has declared their pregnancy or their intention to become pregnant to their supervisor, RSO, Head of academic/administrative unit or to a member of <a href="#">OH&amp;S</a> .
Radiation Protection Officer	A radiation protection officer (RPO) is the OH&S worker responsible for providing and coordinating radiation protection services at Monash University.
Radiation Safety Officer	A radiation safety officer (RSO) is a designated worker in a unit responsible for approving and supervising the ionising radiation work and study of workers and students.
Radiation Worker	A radiation worker is a staff member or student who is occupationally exposed to ionising radiation source(s).
Teratogen	Teratogens are agents that cause congenital malformations, growth retardation, functional disorder and sometimes death in the embryo or foetus. As a general rule, a substance is considered to be a teratogen if it has adverse effects on the unborn child at doses below where there are adverse effects on the mother. It should be emphasised that most drugs and chemicals, that are delivered in high doses under laboratory conditions, can be shown to cause adverse effects to the embryo or foetus (often the only data available is on animals). However, it does not follow that most drugs or chemicals are considered to be teratogens.
Unborn Child	An unborn child may be an embryo, which is defined as an unborn child up to 8 weeks after conception, or a foetus, which is defined as an unborn child from 8 weeks to birth.

## GOVERNANCE

Parent policy	<a href="#">OHS Policy</a>
Supporting schedules	N/A
Associated procedures	<p><b>Codes of Practice and Related Documents</b></p> <ul style="list-style-type: none"> <li>Recommendations for Limiting Exposure to Ionizing Radiation (Printed 1995 - Republished 2002)</li> <li>National Standard for Limiting Occupational Exposure to Ionizing Radiation (Printed 1995 - Republished 2002)</li> </ul> <p><b>Australian Standards</b></p> <ul style="list-style-type: none"> <li>AS/NZS 4801:2001 Occupational Health &amp; Safety Management Systems – specifications with guidance for use.</li> <li>OHSAS 18001:2007 Occupational Health &amp; Safety Management Systems – requirements</li> <li>AS 2243.4:1998 Safety in Laboratories: Ionizing Radiation</li> <li>AS 2243.3: 2010 Safety in Laboratories: Microbiological Safety and Containment</li> </ul>



	<ul style="list-style-type: none"> <li>AS 2243.2: 1997 Safety in Laboratories: Chemical Aspects</li> </ul> <p><b>Monash University Documents:</b></p> <ul style="list-style-type: none"> <li><a href="#">Data Protection and Privacy Procedure</a></li> <li><a href="#">Equal Opportunity Policy</a></li> <li><a href="#">Guidelines for the Development of Safe Work Instructions</a></li> <li><a href="#">Health Surveillance Procedure</a></li> <li><a href="#">OHS Roles, Responsibilities and Committees Procedure</a></li> <li><a href="#">OHS Risk Management Procedure</a></li> <li><a href="#">Risk Management Guidelines</a></li> <li><a href="#">Using Ionising Radiation Procedure</a></li> <li><a href="#">Using Chemicals Procedure</a></li> <li><a href="#">Using Biologicals and Animals Procedure</a></li> </ul> <p><b>Acknowledgements</b></p> <p>The following documents were used as references in the development of this procedure:</p> <ul style="list-style-type: none"> <li>American Conference of Governmental Industrial Hygienists (ACGIH), Documentation of the Threshold Limit Values and Biological Exposure Indices, Sixth Edition, 1996</li> <li>Barlow, S.M. and F.M. Sullivan, Reproductive Hazards of Industrial Chemicals – An evaluation of animal and human data, Academic Press, London, 1982</li> <li>Amdur, M.O., Doull, J. and C.D. Klaassen (eds), Casarett and Doull’s Toxicology – The Basic Science of Poisons, fourth edition, McGraw Hill, 1991. Lewis, R.J., Reproductively Active Chemicals – A Reference Guide, Van Nostrand Reinhold, New York, 1991</li> <li>NIOSH, The Effects of Workplace Hazards on Male Reproductive Health and The Effects of Workplace Hazards on Female Reproductive Health, <a href="http://www.cdc.gov/niosh/">www.cdc.gov/niosh/</a></li> <li>Meyers, V.K. (ed), Teratogens – Chemicals Which Cause Birth Defects, Studies in Environmental Science 31, Elsevier, New York, 1988 O’Rahilly, R. and F Muller, Human Embryology and Teratology, Wiley-Liss, New York, 2001</li> </ul>
Legislation mandating compliance	<ul style="list-style-type: none"> <li>Occupational Health and Safety Act 2004 (Vic)</li> <li>Occupational Health and Safety Regulations 2017 (Vic)</li> <li>Fair Work Act 2009 (Cth)</li> <li>Radiation Act 2005 (Vic)</li> <li>Radiation Safety Regulations 2007 (Vic)</li> </ul>
Category	Operational
Endorsement	Monash University OHS Committee 17 November 2020
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Content enquiries	<a href="mailto:ohshelpline@monash.edu">ohshelpline@monash.edu</a>

## DOCUMENT HISTORY

Version	Date Approved	Changes made to document
2.1	November 2010	Procedures for protecting unborn and breast-fed children from the effects of maternal exposure to chemicals, biologicals and animals, v.2.1
3	November 2014	<ol style="list-style-type: none"> <li>1. Removed reference to legislative compliance from purpose and added this to compliance section.</li> <li>2. Shortened wording of purpose and scope sections to align with other OHS procedures.</li> <li>3. Updated 'Definitions' section to only include definitions specific to this procedure.</li> <li>4. Deleted 'Overview' section, as this is not procedural.</li> <li>5. Removed generic information from 'Risk Management' section and included specific process for assessing risks to pregnant or breast-feeding women.</li> <li>6. Deleted reference to ionising radiation, as this is covered in a separate procedure.</li> <li>7. Added Tools section.</li> <li>8. Added Compliance section.</li> </ol>
3.1	July 2015	Updated hyperlinks throughout to new OH&S website.
3.2	August 2017	Updated logos in header
4	November 2017	<ol style="list-style-type: none"> <li>1. Combined the "Radiation use during pregnancy or breast feeding procedure" with this procedure and updated all sections accordingly.</li> <li>2. Updated Definitions section.</li> <li>3. Updated Responsibility for Implementation section to include reference to radiation.</li> <li>4. Updated 'Records' section to refer to Records Management Procedure.</li> </ol>
4.1	December 2020	<ol style="list-style-type: none"> <li>1. Updated wording to incorporate gender diverse terminology</li> <li>2. Added a reference to use Chemwatch to access SDS</li> <li>3. Clarified the steps for Risk Management</li> <li>4. Added reference to the University's Equal Opportunity Policy in section 5.</li> <li>5. Added reference to the University's Data Protection and Privacy Procedure.</li> </ol>