

Procedure: Personal protective equipment

Purpose

The purpose of this procedure is to define the requirements for the use of personal protective equipment (PPE) to mitigate workplace risks at the Australian National University and to ensure compliance with the *Work Health and Safety Act 2011* (Cth) and the *Work Health and Safety Regulations 2011* (Cth) and the University's Work Health & Safety (WHS) Management System. This procedure is linked to the University's Work health and safety policy and is one of the Safe Work Procedures within the WHS Management System.

Definitions

Local area refers to a College, Research School or Service Division of the University.

Contractor refers to any contractor, consultant, sub-contractor, sub-consultant and any employees of the above required to be at the University to conduct work. The term Contractor includes any individuals under a consultancy/contract or agreement where the University pays another party to do something and/or provide goods or services.

Personal protective equipment (PPE) refers to protective clothing, helmets, safety glasses, goggles, or other garments or equipment designed to protect the wearer's body from injury or infection. The hazards addressed by protective equipment include physical, electrical, heat, chemicals, biohazards, and airborne particulate matter.

Persons Conducting a Business or Undertaking (PCBU) in this procedure refers to the University as the "body corporate (company) unincorporated body, or association" as defined by the *Work Health and Safety Act and Regulations 2011* (Cth).

Residual Risk refers to the overall risk rating of a danger/exposure, after agreed controls are in place. It is the risk or threat that remains after all efforts to identify and reduce the risk are applied.

A **Worker** is defined as anyone who carries out work for the University. A worker includes staff, volunteers, contractor, students and visitors at the University. (For

the purposes of this procedure a contractor working under direct supervision of a local area will fall under this definition. Major contracting companies working on major projects or specific contracts and not under the direct supervision of University personnel will supply their workers with PPE that complies with this procedure).

Procedure

Scope

1. This procedure applies to all PPE owned and provided by the University for the purposes of undertaking work on behalf of the University.

Responsibilities

2. College Deans, Research School and Service Division Directors or their nominated representatives are responsible for:

- ensuring hazard assessments undertaken within in local areas include requirements for PPE where necessary;
- the provision of suitable PPE for workers within local areas;
- provision of training to workers regarding the use and application of all University supplied PPE; and
- enforcing the use of mandatory PPE.

3. Workers are responsible for:

- wearing any mandated PPE as required; and
- the regular inspection, cleaning and routine maintenance of University PPE.

Personal protective equipment

4. PPE is the least effective control strategy as users must remember to wear it and it does little to minimise the underlying hazard. For these reasons, higher level controls such as eliminating, substituting, engineering, isolating and administrative controls must first be considered.

5. Where PPE has been identified as a control, the minimum PPE requirements shall be clearly posted at the entrance to each workplace so that each person entering is made aware of the minimum expectations.

6. PPE is issued as part of managing workplace hazards at the University. In many situations PPE reduces the residual risk of workplace hazards to an acceptable level.

7. Where a risk of injury or illness remains after all other control measures

have been applied, a local area is able to further minimise the remaining risk to an individual, by the provision and use of suitable PPE to prevent damage to the eyes, face, head, body, hands, feet, ears and internal organs.

8. The requirement for the provision of PPE would be applied as a result of:
 - The local area mandating the use of specific PPE upon entry to an area as a general precaution such as in a workshop or laboratory; based on a hazard assessment of the hazards in the area and requirements indicated on Safety Data Sheets (SDS) and/or by legislation.
 - A hazard assessment for a task or process, e.g. the use of hazardous chemicals where specific PPE would be prescribed to manage the hazard e.g. type of goggles, specific gloves, face shield, hood or helmet, screens or exhaust systems. This hazard assessment should consider the environment that the worker is in e.g. communicating with others in the area who may also need to wear PPE.
 - A recommendation included in manufacturers equipment operating manuals.
9. Where an exposure to a hazard(s) exists, workers are required to wear the appropriate PPE as determined in the hazard assessment process and local area procedures and work instructions.
10. The worker is required to be trained in the use and application of all PPE supplied to the individual and it is the responsibility of the supervisor to ensure the correct training and fitting of all PPE takes place before it is used.
11. The worker is responsible for the regular inspection, cleaning and routine maintenance of the equipment. The local area will purchase disposable items (ear plugs, disposable gloves), spare parts (filters) and items for the upkeep of the equipment (lens cleaning tissue, fluid).
12. On cessation of employment, the worker will return the PPE to their local area supervisor.
13. Workers may be liable for the cost of replacement equipment if the loss or damage is a result of negligence or misuse.
14. Workers will consult their supervisor if the PPE:
 - is uncomfortable;
 - is damaged or defective;
 - is unfamiliar and the worker has not been trained in its use.
 - does not fit properly; or
 - if there is any concern in respect to its function, application or protection etc.

15. Visitors to an area must be supplied and familiarised with all the necessary PPE required to be worn prior to any exposure.

16. Each local area will have specific visitor procedures with the minimum PPE requirements stated and explained in an area induction.

Protective clothing

17. Where the University requires a worker to wear protective clothing, including clothing for protection from the elements, the protective clothing will be supplied and maintained by the local area.

18. The worker is responsible for the regular inspection of the protective clothing.

19. Contaminated protective clothing (e.g. laboratory coats) will be laundered by a specialised laundry service provided by the University.

20. Workers may be liable for the cost of replacement items if the loss or damage is a result of negligence or abuse.

21. The choice of protective clothing will depend on several factors, including the substances being worked with and the task performed. Protective clothing can be loosely categorised as providing protection from the ingestion, absorption, inhalation or injection of :

- hazardous chemicals;
- heat and cold;
- harmful radiation (excluding ionising radiation);
- mechanical hazards;
- biological hazards; and
- the protective clothing will not create an additional hazard (e.g. dust coats worn near rotating machinery).

Eye protection

22. Where a risk of eye injury remains after all other control measures have been applied, a local area may be able to further minimise the risk by the provision and use of eye protection.

23. A local area may mandate the use of eye protection upon entry to the area as a general precaution such as in a workshop or laboratory, based on a reasonable assessment of the hazards in the area or as a result of a hazard assessment or as recommended in manufacturers' equipment operating manuals.

24. The requirement to wear eye protection for specific tasks or areas will be

documented in the operating procedure/manual for that task, included in the local area induction and signage indicating the requirement posted at point of entry locations to the area.

25. Where eye protection is mandated, the supervisor has the responsibility to ensure that it is being worn and worn correctly.

26. Safety glasses need not be worn whilst at microscope workstations or when a hazard assessment has determined that all potential eye-hazards (chemicals, biological, UV, dusts and other aerosols etc. that may exist) are adequately controlled to eliminate the risk of eye injury.

27. A list of hazardous activities that require eye protection and suggested controls can be found in [Australian Standards/New Zealand Standards \(AS/NZS\) 1336:2009 – Eye and face protection](#).

Prescription glasses

28. Standard prescription glasses e.g. reading glasses are not considered suitable for eye protection as they do not provide any side protection or impact resistance. Standard prescription glasses may be worn when also wearing safety glasses which have been designed to fit over the top of prescription glasses.

29. Prescription safety glasses can be obtained from an optometrist. Prescription safety glasses will be manufactured to meet the requirements of AS/NZS 1337.6 (2012) Personal eye protection – Prescription eye protectors against low and medium impact.

30. When a worker requires prescription safety glasses, the following will apply.

Table 1

If...	Then...
The person does not have private health insurance,	The local area will meet 100 per cent of the cost of the spectacles.
The person has private health insurance,	The health insurance company will meet the cost of the spectacles.
The person has private health insurance but the insurance does not cover the total cost of	The local area will meet the residual cost of the spectacles.

the spectacles,	
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Note: Workers are responsible for their optometrist consultation fees but may claim them back through Medicare.

- 31. If claiming the cost of the spectacles through the local area, the optometrist's tax invoice will include a statement that the lenses and frames comply with the appropriate Australian Standards for safety spectacles, currently AS/NZS 1337.6:2012 Personal eye protection – Prescription eye protectors against low and medium impact.
- 32. Side shields must remain on the prescription glasses at all times in environments requiring eye protection. Removable side shields are permitted, however must be replaced in areas requiring eye protection.
- 33. Workers should consult an optometrist at least every 2–3 years to ensure that their lens prescription is satisfactory. Some individuals, because of age or eye pathology, may require more frequent review.
- 34. Polycarbonate safety frames with prescription lenses (as a clip-on) may be used for protection against low–medium impact hazards and low–risk laboratory hazards. Optometrists may provide alternative safety spectacles but they must comply with the applicable Australian Standards.

Tinted or coloured lenses

- 35. Eye protection lenses may have a tint or colour to achieve the appropriate absorption characteristics.
- 36. Coloured or tinted prescription lenses are only recommended for outdoor use and should be discouraged if they provide little protective benefit. Where coloured or tinted lenses are required for medical reasons, a medical professional should provide a supportive letter to the supervisor stating that the lenses will not unduly impair the person's ability to see visual keys and warnings for the tasks being performed.

Contact lenses

- 37. Wearing contact lenses in dusty conditions, workshops or laboratories is not advisable. It may result in extra irritation or damage to the eye's surface when exposed to certain solvent vapours, mists or splashes. Wearers of contact lenses should discuss any issues with their optometrist and supervisor. Contact lenses are not an eye protection device.

Laser users

38. Laser users (Class 3 and 4) are to undergo a pre-laser employment ophthalmic inspection to help in prognoses if there is a laser-induced injury.

39. All PPE including eye protection for laser use (Class 3, Class 4) is to be approved by the local area Laser Safety Officer and documented in local procedures.

Eye wash stations

40. All eye protection zones, except those where the hazards are limited to radiation, should have an accessible eye wash station. Eye wash stations will meet the [AS/NZS 4775-2007 Emergency eyewash and shower equipment](#) and be connected to the water supply. Eye wash stations will be inspected and tested in accordance with the manufacturers' specifications to ensure that they are functional and free of contaminants. The requirement for this inspection has been captured in the University's [WHS Monitoring and testing procedure](#).

Hand protection

41. A local area may mandate the use of hand protection upon entry to an area as a general precaution such as in a workshop or laboratory, based on a reasonable assessment of the hazards in the area or as a result of a hazard assessment.

42. The requirement for hand protection for specific tasks or general areas will be documented in the local area operating procedure/manual for that task; included in the local area induction and sign posted at point of entry locations to that area.

43. Users of gloves must be aware that:

- gloves that are designed to protect against initial splashes may not be suitable for immersion in a substance, or contact with it for long periods of time;
- gloves may interfere with the wearer's dexterity and tactile sensation;
- gloves can become contaminated and if not removed prior to contact may cause contamination of other objects;
- some gloves will degrade over time and should be checked prior to use and at regular intervals whilst performing the task as per the products specifications; and
- not all gloves are compatible with all chemicals.

44. One type of glove may not be suitable for all types of anticipated hazards that may occur together and so multi-gloving may be necessary for protection

against different mechanical hazards, e.g. an absorbent liner for perspiration or a cut-proof liner in surgical gloves.

45. To ensure the most appropriate glove is provided for the tasks and the environmental conditions, it is important to consider:

- the hazard(s) and the need for protection;
- the level of manual dexterity required;
- material suitability to give the protection required;
- style and a good fit;
- potential for adverse ramifications from the selection (e.g. a result of style, fit or material);
- whether re-useable or disposable gloves are appropriate;
- allergies and skin conditions such as allergies to latex, contact dermatitis (inflammation of skin) ;
- acceptance by wearers, e.g. cultural differences may rule out the use of materials such as pigskin; and
- maintenance requirements.

46. The [Ansell Chemical Resistance Guide](#) for gloves provides information on glove selection for using many substances. Chemical specific glove selection is also found in the Safety Data Sheet (SDS) for the chemical.

47. Glove material (natural rubber latex) may cause an allergic reaction in the case of some wearers. If a reaction to gloves is experienced, it should be reported to the supervisor immediately. Alternative glove materials can be arranged.

48. Use of gloves should be considered in conjunction with the manufactures' instructions and local area procedures. For example, wearing gloves or long sleeve clothing in some workshop environments has been prohibited due to the increased risk of entanglement with rotating machinery like drill presses, lathes, milling machines.

49. In all cases of concern, refer to local area procedures, safe work instructions and the local area supervisor. If in doubt about the safety procedure or instruction, stop work and seek guidance from supervision, the WHS Officer or the [Work Environment Group \(WEG\)](#) or refer to the [WHS Hazard management procedure](#).

Head protection

50. Head protection should be considered as a control measure where there is a risk of a person:

- being struck on the head by a falling object;
- striking his/her head against a fixed object;

- making head contact with electrical hazards; or
- being exposed to the sun.

51. A type 1 industrial safety helmet is the preferred type suitable for work in the construction and engineering industry. Further information can be sourced from [AS/NZS 1800:1998 “Occupational protective helmets – Selection, care and use.](#)

52. In some cases, the helmet is not intended to be used by itself but only together with other personal protective equipment, such as with a face shield and a powered air purifying respirator. In order for the respirator to comply with AS/NZS 1716 “Respiratory protective devices” and the face shields to comply with AS/NZS 1337 “Personal eye protection”, all components of the system should be used together. The manufacturer’s instructions must be followed, especially as to the compatibility of spare parts.

53. The best techniques for care of safety helmets include:

- follow the manufacturer's cleaning and maintenance instructions;
- destroy any helmets that receive any significant impact, damage or deterioration to the shell;
- discard any helmets with excessive discolouration of the shell colour, weathering of the surface which may indicate a loss of strength, with splitting or cracking of the material;
- mark the helmet with the date of issue to the wearer; and
- helmet shells generally have a life of at least three years from the time of issue. Components of harnesses (webbing support inside the helmet) may deteriorate more rapidly in service and harnesses should, therefore, be replaced at intervals not longer than two years. For helmets that are used infrequently and stored away from sunlight, dirt and temperature extremes, this guideline/recommendation may not be applicable.

Face protection

54. Face protection is considered as a control measure where a person may be at risk of coming into contact with:

- hazardous chemicals, infectious substances, gasses or vapours (e.g. being splashed);
- flying objects (e.g. where tools or machines may cause particles or debris to fly);
- UV radiation (e.g. from welding or excessive exposure to direct sunlight); or
- excessive heat;

55. Face shields will comply with AS/NZS 1337 “Personal eye protection”.

56. When grinding or using a chain saw or any other high risk eye injury task, a

face shield must be worn over safety glasses or goggles.

Hearing Protection

57. More specific details can be found in the [Noise management procedure](#).

58. The following factors should be considered when choosing hearing protection:

- the level of noise reduction required;
- the working conditions (heat, dust etc.);
- suitability of the hearing protection for the task;
- the clamping force (of earmuff cushions) where relevant; and/or
- personal comfort of the wearer (fit, allergies, prone to inner ear infections);
- suitability for use with other forms of PPE.

59. The Code of Practice for Managing Noise and Preventing Hearing Loss at Work (December 2011) and AS/NZS 1269.3 (2005) "Occupational noise management – Hearing protector program" provide useful information on the selection of appropriate hearing protection.

Breathing protection

60. Breathing protection should be considered where a risk of injury or illness still remains after all other control measures have been applied. A local area can further minimise the remaining risk, by the provision and use of suitable PPE, to prevent damage to the respiratory tract.

61. Breathing protection is required where it is reasonably foreseeable that the operator could be exposed to a substance, agent or contaminant after all other practicable controls have been implemented. Breathing protection should only be used as a short-term control measure. Where possible a fume cupboard or other extraction device should be used to minimise the need for breathing protection.

62. The local area may mandate the use of breathing protection upon entry to the area as a general precaution such as in a workshop or laboratory, based on a reasonable assessment of the hazards in the area.

63. The requirement for breathing protection for specific tasks or general areas will be documented in the operating procedure/manual for that task. Additionally the specific requirements will be stated in safe work instructions, included in the local area induction and sign posted at point of entry locations to that area

64. As a part of the emergency contingency measures breathing protection may be required if the substance is spilt outside of a containment area (e.g. fume cupboard). This would allow clean up without exposure to the individual.

65. Breathing protection can be categorised into two types:
- air-purifying devices designed to filter contaminated air before it is inhaled by personnel. They exist as either disposable respirators or non-disposable respirators with disposable filters; and
 - air-supplied devices that deliver clean air from an independent supply to the wearer. These respirators are often used for toxic or oxygen-deficient atmospheres and confined spaces.
 - Both types require specialised fitting (for a positive seal on the face) and training to ensure the maximum protection.
66. Where breathing protection is required to be worn, a respiratory protection program will be established by the local area as per AS/NZS 1715:2009 Selection, Use and Maintenance of Respiratory Protective Equipment.
67. The respiratory protection program should include procedures specific to the worksite intended to prevent the inhalation of harmful contaminants and overseen by an Occupational Hygienist.
68. If the use or wearing of equipment affects communication, it is important that appropriate steps are taken to ensure that the situation does not create additional risk to the operator(s). This should be considered in the hazard assessment of the activity.
69. The sharing of equipment presents a hygiene risk and therefore breathing protection will be provided for exclusive use, or sterilised after each use.
70. Users should consult manufacturers' instructions, particularly regarding storage care and cleaning recommendations. Considerations should be made for prevention of:
- damage & distortion to face pieces;
 - contact with foreign particles, atmospheres and substances which could cause deterioration; and
 - contamination, particularly for breathing equipment used to supply air to a person.

Footwear

71. Protective footwear should be worn to reduce injuries to feet resulting from:
- contact with falling, rolling or cutting objects;
 - penetration through the sole or uppers;
 - degloving (epidermis pulled away from the feet);
 - explosions and electrical hazards;
 - contact with hazardous chemicals, cold, heat and molten metals; and
 - slipping.

72. Footwear will conform to AS/NZS 2210.1 “Occupational protective footwear – Guide to selection, care and use.
73. Specialised footwear when required is to be supplied at the location. For example, overshoes or medical booties (shoe covers) for access to a clean room will be provided at the entrance to a clean room.
74. Protective footwear is required for all occupations undertaking maintenance, trade and servicing, in workshop areas, plant areas, areas under construction/refurbishment, stores, commercial kitchens and laundries, and field trips. These groups should wear footwear with toe protection and must comply with local area procedures.
75. All people working in laboratories will wear enclosed footwear that is resistant to spills of hazardous substances.
76. Workers unable to wear the protective footwear for medical reasons, will provide their supervisor with a medical certificate from their medical practitioner, stating the reason, diagnosis and expected timeframe of the condition. This may require the supervisor responsible to contact the Work Environment Group to discuss reasonable suitable duties.

Signage

77. Where specific PPE is mandatory in an area, appropriate signage complying with [Safety signage procedure](#) will be displayed at the entrance to each location. Individual rooms or labs may have specific PPE requirements and these rooms must also have the unique PPE requirements posted.

Maintenance requirements

78. Where workers are required to wear personal protective equipment, the local area is required to ensure that the equipment is maintained, repaired and/or replaced so that it continues to minimise the risk to the worker who uses it. This includes ensuring that the protective equipment is clean and hygienic.
79. It is the responsibility of the worker to raise any concerns immediately with the supervisor and not continue working with damaged or ill-fitting PPE.
80. A pre-use inspection should always be conducted to ensure that the PPE is in good working order and fits correctly.

Storage

81. PPE should be stored to ensure it remains clean, effective and in good order. It should be stored separately from other items, e.g. in a sealed plastic bag.

Contamination

82. Any contaminated PPE should be immediately sealed in a plastic bag e.g. autoclave bag, to isolate the contamination. The supervisor must be contacted to discuss the possibility of decontamination. If decontamination cannot be conducted, the PPE will be disposed as waste (in line with the type of substance it has been contaminated by).

Instruction

83. Where a hazard assessment control measure includes the requirement to wear or use PPE, it is important that workers are instructed by their line manager or the person who is directing the work, on the nature of the work and how to implement the control measures. This will also include the selection of a suitable size, fit and comfort for the individual, prior to commencing the activity. This instruction can be provided during the local induction if the task/activity is conducted on a regular basis or prior to conducting the activity, if it is a new task/activity.

84. The requirement to wear PPE for specific tasks will be documented in the operating procedure/manual for that task.

Training

85. Workers are required to be trained in the use and application of all PPE supplied to the individual and it is the responsibility of the supervisor to ensure the correct training and fitting of all PPE takes place prior to its use.

Sources

Legal and other requirements
<i>Work Health and Safety Act 2011 (Cth)</i>
<i>Work Health and Safety Regulations 2011 (Cth)</i>
<i>Work Health and Safety Managing Noise and Preventing Hearing Loss at Work Code of Practice 2015</i>
AS/NZS 1269.3 Occupational noise management – Hearing protector program

AS1319 Safety signs for the occupational environment
AS/NZS 1336 Eye and face protection –Guidelines
AS/NZS 1337 Personal eye protection
AS/NZS 1337.6 Personal eye protection – Prescription eye protectors against low and medium impact
AS/NZS 1715 Selection, use and maintenance of respiratory protection devices
AS/NZS 1716 Respiratory protective devices
AS/NZS 1800 Occupational protective helmets – Selection, care and use
AS/NZS 2161.2 Occupational protective gloves – general requirements
AS/NZS 2210.1 Occupational protective footwear – Guide to selection, care and use
AS/NZS 4775 Emergency eyewash and shower equipment
Ansell Chemical Resistance Guide for gloves

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