Health and Safety Code of Practice

SCP9 Personal Protective Equipment

Responsibility for Policy:	Finance Director, Deputy Chief Executive & University Secretary
Relevant to:	All LJMU Staff and Students
Approved by:	Health & Safety Committee
Responsibility for Document Review:	Manager, Safety & Health Services
Date introduced:	January 1999
Date(s) modified:	February 2004, June 2010, October 2012, September 2013, September 2015, September 2017
Next Review Date:	June 2020

RELEVANT DOCUMENTS

- Health and Safety at Work etc. Act 1974
- Management of Health and Safety at Work Regulations 1999
- Personal Protective Equipment Regulations 1992 (as amended 2002)
- Provision and Use of Work Equipment Regulations 1998
- Control of Substances Hazardous to Health Regulations 2004
- Health and Safety (Miscellaneous Amendments) Regulations 2002
- A short guide to the Personal Protective Equipment Regulations

RELATED POLICIES & DOCUMENTS

- Liverpool John Moores University Health and Safety Policy Statement
- MCP1 Organisation for the Implementation of the Health and Safety Policy
- MCP2 Arrangements for the Implementation of the Health and Safety Policy
- SCP18 Risk Assessment

THIS CODE OF PRACTICE FORMS PART OF THE UNIVERSITY'S HEALTH AND SAFETY POLICY AND REPLACES ALL PREVIOUS ISSUES

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1. INTRODUCTION

The objectives of this Code of Practice are to ensure that the issue of Personal Protective Equipment (PPE) is properly controlled and to prevent the proliferation of inadequate PPE as a substitute for properly planning health and safety.

1.1 Legal considerations

The following legislation should be considered when planning to use or purchase any type of PPE:

- Health and Safety at Work etc. Act 1974
- Management of Health and Safety at Work Regulations 1999
- Personal Protective Equipment Regulations 1992 (as amended 2002)
- Provision and Use of Work Equipment Regulations 1998
- Health and Safety (Miscellaneous Amendments) Regulations 2002
- Control of Substances Hazardous to Health Regulations 2004

The Health and Safety at Work etc. Act 1974 and supporting Regulations place duties on the University towards employees and those who may be affected by its activities.

The University must ensure that appropriate standards are met in relation to health and safety. Where PPE is necessary the University must provide it (without cost to the employee) and take all reasonable steps to ensure that it is properly used and used in a safe manner. All PPE must carry the CE mark to signify its compliance with current legislation and standards.

1.2 Definition

PPE is defined in the PPE Regulations as ‘all equipment (including clothing affording protection against the weather) which is intended to be worn or held by a person at work and which protects the person against one or more risks to the person’s health or safety’. Examples include safety helmets, gloves, eye protection, high-visibility clothing, safety footwear and safety harnesses.

Hearing protection and respiratory protective equipment provided for most work situations are not covered by the PPE Regulations because other Regulations apply to them. However, these items need to be compatible with any other PPE provided.

Cycle helmets or crash helmets worn by employees on the roads are not covered by the PPE Regulations. Motorcycle helmets are legally required for motorcyclists under road traffic legislation. Also not covered are uniforms and overalls worn in the normal performance of a job primarily designed to assist cleanliness or project a corporate image, e.g. receptionist uniforms. Employees including agency workers cannot be charged for PPE, whether it is returnable or not.

2. RISK ASSESSMENT

PPE should be supplied and used wherever there are risks to health and safety, which cannot be adequately controlled in other ways. Selection of PPE should form part of the main task risk assessment, utilising the guidance contained in Appendix 1 of this Code of Practice and the form contained in SCP18 Risk Assessment: https://www2.ljmu.ac.uk/HSU/65144.htm

The PPE Regulations require that PPE:

- is properly assessed before use to ensure it is suitable
- is maintained in efficient working order, in a hygienic condition and stored properly
- is provided with instructions on how to use it safely
- is used correctly by employees

An assessment of the risk or activity must be undertaken by the person supervising the staff or students. When choosing the correct type of PPE consideration should be made about the different types of hazard so that a suitable assessment can be undertaken to protect against those hazards. Please see Appendices 1 and 2 for guidance.

The PPE supplier can provide advice on the different types of PPE available and how suitable they are for different tasks. It may be necessary, in a few particularly difficult cases, to obtain advice from specialist sources and from the PPE manufacturer. Another useful source of information is the British Safety Industry Federation (www.bsif.co.uk).

The following should be considered when assessing whether PPE is suitable:

- Is it appropriate for the risks involved and the conditions at the place where exposure to the risk may occur? For example, eye protection designed for providing protection against laboratory chemicals will not offer adequate face protection for someone using an angle grinder to cut steel or stone
- Does it prevent or adequately control the risks involved without increasing the overall level of risk?
- Can it be adjusted to fit the wearer correctly?
- Has the state of health of those who will be wearing it been taken into account?
- What are the needs of the job and the demands it places on the wearer? For example, the length of time the PPE needs to be worn, the physical effort required to do the job and the requirements for visibility and communication
- If more than one item of PPE is being worn, are they compatible? For example, does a particular type of respirator make it difficult to get eye protection to fit properly?
- Have the differences in the physical dimensions of different workers' other individual characteristics and preferences been considered? More than one type or size of PPE may be necessary and employees should be involved in its selection
- PPE shall only be used when the risks cannot be controlled or sufficiently limited by technical means or by work organisation. In other words, PPE must be a "last resort"

2.1 Types of hazards and personal protective equipment

Examples of hazards and PPE controls are provided below:

	Hazard	Options
Head	Impact from falling or flying objects, risk of head bumping or hair entanglement.	A range of helmets and bump caps.
Eyes and face	Chemical, biological or metal splash, dust, projectiles, gas and vapour and radiation.	Safety spectacles, goggles, face shields and visors.
Breathing	Dust, vapour, gas and oxygen-deficient atmospheres.	Disposable filtering face-piece or respirator, half- or full-face respirators, air-fed helmets and breathing apparatus (specialist training is required).
Hand and arms	Abrasion, temperature extremes, cuts and punctures, impact, chemicals, electric shock, skin infection and disease or contamination.	Gloves, gauntlets, mitts, wrist-cuffs and armlets.
Feet and legs	Wet, electrostatic build-up, cuts and punctures, slipping, falling objects, metal and chemical splash and abrasion.	Safety boots and shoes with protective toe caps and penetration-resistant mid-sole,

		gaiters, leggings and spats.
Body	Temperature extremes, adverse weather, chemical or metal splash, spray from pressure leaks or spray guns, impact or penetration, contaminated dust, excessive wear or entanglement of own clothing.	Conventional or disposable overalls, boiler suits, specialist protective clothing, e.g. chain-mail aprons and high-visibility clothing.

3. SELECTION OF PERSONAL PROTECTIVE EQUIPMENT

Please read this section in conjunction with Appendix 1.

PPE must be used whenever hazards have the potential to cause injury or impairment in the function of any part of the body through absorption, inhalation, or physical contact. Managers should ensure that each item of PPE is appropriately selected for each employee, with consideration of regulatory requirements, manufacturer's technical data and usage recommendations. General guidelines for selecting PPE include:

- PPE items must meet (at a minimum) all applicable standards
- Correct fit, as poor fit or incorrect sizes may reduce PPE effectiveness
- Consider PPE expected service life versus actual use life
- Wherever visitors may be exposed to workplace hazards, they must be provided with appropriate PPE
- PPE should be provided for individual use of staff (PPE must not be shared)

3.1 Head protection

A protective helmet (hard hat) should be used for work in areas where there is a potential for injury to the head from falling or flying objects or bumps against fixed objects. Protective helmets, or hard hats, should resist penetration by objects, absorb the shock of a blow, be water resistant and slow burning and have an easily adjustable headband and suspension. A chin-strap may be required when working at elevated heights. Protective helmets must comply with current BS and CE standards.

Hard hats must be inspected regularly and replaced when signs of wear, damage, or deterioration appear in the shell or the suspension. Hard hats do not have an indefinite useful life, nor are they resistant to all physical and chemical exposures. Most manufacturers recommend replacing hard hats that are used regularly, regardless of outward appearance. The maximum recommended life use is five years. If work conditions include temperature extremes, sunlight or chemicals, the hard hat should be replaced sooner. A replacement is required whenever there is a strike from an object or the hard hat has fallen a significant distance.

3.2 Eye and face protection

Employees should use appropriate eye or face protection and a face shield, if necessary, when exposed to eye or face hazards from flying particles, sparks, molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapours, radiant heat, electrical hazards, or potentially injurious light radiation.

When selecting eye and face protection, supervisors should consult the manufacturer's description or technical data in order to ensure that the selected items provide identified splash, impact, heat, electrical, and/or special light protection. Eye and face protective devices should meet the minimum requirements.

Face shields are supplementary protective devices worn to shield the face from certain hazards. They must always be worn with safety glasses or goggles. Splash goggles and face shields are essential when there is a possibility of liquid splash which is especially

important for work with highly corrosive liquids. Safety glasses with side shields and full-face shields with throat protection should be worn when working in areas with flying objects or with explosive or highly hazardous materials.

Protective eyewear must be provided for use wherever employees and students could be exposed to levels of laser radiation above the maximum permissible level. All laser eyewear must be clearly labelled with the optical density values and the useful wavelengths, and must be periodically inspected to ensure serviceability (see SCP21 Non-ionising Radiation).

Goggles or safety glasses with side shields should be worn with helmets or hand shields in welding or cutting processes to protect the eyes and face; this is because one form of eye protection is not enough. Goggles must have ventilation to prevent fogging. Lenses must be permanently marked to identify the source and shade. Filter plates must be easily removed.

3.3 Respiratory protection

Respiratory equipment is covered by other legislation, but expert advice must be sought from the supplier of respiratory equipment and individual fitting should be made. If it is to be worn with other PPE then it should be fitted with such equipment to ensure compatibility and users should be trained.

Respirators with appropriate chemical and/or filters cartridges are required for work in atmospheres with air contaminants above the Working Exposure Limit (WEL). Respirators are available for other processes where there is a potential for odour or particulate exposures.

Choosing the appropriate respiratory protection can be an effective method of protecting the respiratory tract when engineering design and administrative controls cannot reduce the exposure levels to an acceptable limit. When there is a potential for decreased oxygen, high concentrations of chemicals or poor warning properties, air supply respirators are required.

3.4 Hand protection (gloves)

There is a legal duty to prevent exposure to hazardous substances. This should be achieved by establishing a safe system of work, including safe handling methods, training and instruction. Suitable personal protective equipment, skin care creams and adequate washing facilities should be provided. Regular skin checks should be undertaken to identify skin problems and ensure that the control measures are working.

PPE for hand protection must be used whenever the potential exists for exposure to hazards, including skin absorption of harmful substances; severe cuts or lacerations; severe abrasions; punctures; chemical burns; thermal burns; and harmful temperature extremes. The first line of defence against hand injuries shall be machine guarding, barriers, and work procedures. If such measures fail to eliminate the hazards, then protective gloves shall be used to protect the employees' hands. When risk of injury includes the arm, protective sleeves are appropriate.

Gloves differ in design, material and thickness. No glove material will protect against all substances and no gloves will protect against a specific substance indefinitely. Many substances can penetrate through the glove and then the skin and are capable of causing diseases elsewhere in the body. Harmful substances, wet work, constantly working in uncomfortably hot or cold surroundings or excessively dry or wet conditions are major causes of serious skin disease.

Glove manufacturers produce charts to show glove performance against different substances. Manufacturers use three key terms: “breakthrough time”, “permeation rate”

and “degradation”. The manufacturer’s charts should be used to identify the best gloves for the hazards being handled. All gloves should carry the European standard CE mark.
Glove selection should consider the following:

- Are chemical and/or biological hazards present and what form do they take?
- Are abrasions and punctures from sharp objects a problem?
- Is a secure grip vital to the application?
- Is dexterity important?
- Which characteristic is more important: protection or dexterity?
- Are the gloves properly sized for individual workers?
- Will the gloves be required to offer protection from heat or cold temperatures?
- Will the employee be wearing the gloves for a few minutes at a time or all day?
- Is double-gloving necessary?
- Will the worker need full-length gloves? The length of the glove is important where there is risk of the hazard threatening the forearm.
- Are colour-coded gloves required? In some areas the colour of glove can be a safety indicator.
- Are records kept of the type of gloves (trade names as well as material) used for specific hazards?

Latex gloves **should not be used in LJMU** as natural rubber latex causes allergies, either through direct contact with the skin, or by inhalation of powder from powdered latex gloves due to the naturally occurring proteins.

3.5 Foot protection

Protective footwear is required for work in areas where there is a danger of foot injuries due to falling and rolling objects, electrical hazards, hot or slippery surfaces or objects piercing the sole. Foot protection should be considered for e.g. manual handling operations, use of some machinery and areas undergoing construction/refurbishment work.

Protective shoes or boots must comply with BS and CE standards for footwear. This standard should provide both impact and compression protection. Where necessary, footwear that provides puncture protection, chemical resistance, electrical insulation or electrical conduction should be selected. Additionally, leggings and shin guards can also be used for protection against foot and lower leg injuries.

Employees should be able to identify signs of protective shoe or boot wear e.g. torn or cracked uppers, holes or cracks in heels or soles and metal embedded in heels or soles in electrical safety shoes. Damaged or worn protective footwear needs to be replaced to ensure protection against foot injuries.

3.6 Body protection

Hazards include extreme temperatures, adverse weather, poor visibility, chemical or metal splash, contaminated dust, cutting equipment and falls from height. PPE could include high-visibility clothing, disposable or conventional overalls, bodysuits, chain mail or a fall arrest harness.

Protective clothing must prevent contaminants from reaching the normal clothing or skin of the wearer to be considered effective. Laboratory coats, plastic or rubber aprons should be worn when handling chemical and biological hazards.

4. INFORMATION, INSTRUCTION AND TRAINING

The PPE Regulations require that all employees are provided with information, instruction and training. Please note the following:

- Anyone using PPE should be aware of why it is needed, when it is to be used, repaired or replaced and its limitations
- Anyone using PPE should be trained how to use it properly and monitored to ensure they are doing this
- Because PPE is the last resort after other methods of protection have been considered, it is important that users wear it all the time they are exposed to the risk. Exemptions for those jobs which take 'just a few minutes' should never be allowed
- Regular checks should be made to ensure that PPE is being used; if it is not being used, the reasons for this should be investigated
- Safety signs are required to be displayed and can be used as reminders to wear PPE
- Anyone using PPE should be trained how to keep it in efficient working order and in a good hygienic condition

5. MAINTENANCE OF PERSONAL PROTECTIVE EQUIPMENT

The PPE Regulations require that there is a planned maintenance schedule for managing PPE. PPE should be:

- Looked after and properly stored when it is not being used, for example in a dry, clean cupboard, or in the case of smaller items, such as eye protection, in a box or case
- Kept clean and in good repair - the manufacturer's maintenance schedule should be followed (including recommended replacement periods and shelf lives). Simple maintenance can be undertaken by the trained wearer, but more intricate repairs should only be undertaken by specialists
- Replaced, when required, by a readily available replacement
- Accounted for on a suitable PPE register that is regularly updated, giving details of date of issue, type of equipment and details of its maintenance

6. CHECKLIST FOR COMPLYING WITH PPE REQUIREMENTS

The checklist below may be used as an aid-memoir for complying with the requirements of this Code of Practice.

1	Is PPE that is not covered by other specific existing legislation required for work in your work area?	Yes	No
2	Can processes or activities be changed to eliminate the need for PPE?	Yes	No
3	Have you assessed the PPE requirement to ensure that suitable PPE is selected and provided?	Yes	No
4	Where more than one piece of PPE is worn, do you take steps to ensure compatibility?	Yes	No
5	Does the PPE comply with UK legislation and appropriate standards (i.e. is it CE marked?)	Yes	No
6	Do you have a system of maintenance and replacement for PPE, and appropriate record keeping?	Yes	No
7	Is suitable storage provided for PPE?	Yes	No
8	Do you provide systematic information, instruction and training on PPE for employees?	Yes	No
9	Do you have a PPE loss/defect reporting system?	Yes	No

7. PERSONAL PROTECTIVE EQUIPMENT FOR STUDENTS

If PPE is supplied to students it must be maintained in accordance with the Regulations. Students purchasing their own PPE should be given guidance by a competent person to ensure they purchase it to the required CE standard and that it is suitable for the purpose.

APPENDIX 1
PERSONAL PROTECTIVE EQUIPMENT SELECTION GUIDANCE

Body part protected	Types of protection	Processes and activities (examples)	Selection (comments)	Maintenance (advice)
HEAD	Crash/riding helmets Safety helmets Bump caps Other caps (e.g. entanglement protection)	Construction/ building work Work near hoists, etc. Tree felling Caving Potential for objects falling from height	Appropriate shell size with adjustable strap. Compatibility with conditions.	Not stored in direct sunlight or hot/humid conditions. Visual inspections. Cleansing of sweat bands, etc. If damaged or it deteriorates, replace.
EYE	Safety spectacles Eye shields Goggles Welding, i.e. filters etc.	Chemicals Powered tools Welding gases under pressure	Safety spectacles: light, appropriate style, lateral protection. Safety goggles: heavier, possibly less convenient but more all-round cover and more prone to misting.	Cleaning of lenses. Replace if scratched or pitted. Personal issue.
HAND/ARM	Protection against cuts, abrasion, extremes of temperature, skin irritation	Manual handling. NB entanglement danger near machinery. Vibration e.g. chainsaws. Outdoor work. Thermal processes.	Degree of protection required against: penetration/ abrasion, thermal conditions, fire, chemicals and general use.	Cleaning, regular checking and discard if worn or deteriorated. Minimise contact with chemicals.
FOOT	Safety boots or shoes Safety wellingtons	Chemical etc. Construction Mechanical or manual handling Thermal processes Chemical processes Electrical hazards	Soles- slip/chemical resistance Heat resistance Waterproof	Cleaning. Protective covering maintenance. Discard/dispose of worn or deteriorated items.
BODY	Overalls, aprons, etc. Thermal outfits High visibility, life jackets, chainmail	Construction/ outdoor work Cold stores Food processing Welding Agricultural e.g. chainsaw use	Appropriate protection against chemicals and hazardous substances including: strong solvents, oils and greases, fibres and dusts, etc.	Appropriate maintenance, checking and discard if damaged.