



## **Department of Archaeology & Anthropology**

# **SAFETY MANUAL**

---

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This Health and Safety Manual should be read in conjunction with the Department of Archaeology & Anthropology Safety Policy, and supplements the University Health and Safety Policy, a copy of which is available at:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd016m/hsd016m.pdf>

## 1. INTRODUCTION

This manual focuses on those issues of particular importance for researchers and students working in all parts of the Department of Archaeology and Anthropology. The Department is organized into the following: the divisions of Archaeology (including the Cambridge Archaeological Unit), Biological Anthropology, and Social Anthropology, the McDonald Institute for Archaeological Research, the Museum of Archaeology and Anthropology, and the Haddon Library. Its accommodation is largely concentrated in Downing Street, Pembroke Street, Fitzwilliam Street and Storey's Way. More comprehensive safety information may be found in the University of Cambridge Safety website, which contains the General Safety Policy Statement of the University together with other safety information: <http://www.admin.cam.ac.uk/offices/safety/>.

### 1.1. STATEMENT OF DEPARTMENTAL SAFETY POLICY

It is the overriding policy of the Department of Archaeology and Anthropology that all work, whether associated with teaching or research, is done efficiently and safely. All who work in the Department of Archaeology and Anthropology are required to observe the provisions of the Health and Safety at Work Act etc. 1974. The Head of Department is responsible for implementing University Safety Policy and has delegated the day-to-day management of Safety to the Departmental Safety Officers.

Safety in the Department begins with the individual's personal responsibility. But, in addition, each member of academic staff, each research worker, and each technician in charge of a section or a laboratory has a statutory duty to take reasonable care for persons under his/her supervision or visitors to his/her area. Matters affecting safety under the Health and Safety at Work Act must be dealt with at once and any delay must be reported to the Departmental Safety Officers.

### 1.2. GENERAL POLICY

This statement recognises the department's obligations under the Health and Safety at Work etc. Act 1974 and the department will so far as is reasonably practicable:

- Set standards that comply with all relevant statutory requirements so that the health and safety of staff, students, visitors and the general public are not adversely affected by the activities of the department.
- Provide and maintain equipment and a working environment that are without risks to health and safety.

- Train all staff to be aware of their own responsibilities for, and to provide information, instruction and training on, the particular hazards and risks which exist within the department.
- Ensure that these objectives are being fulfilled through the department's monitoring procedures. These include:
  - issues (i.e. hazards) raised by staff on ad-hoc basis;
  - routine safety inspection of the department (at least once per year);
  - raising safety issues at regular safety committee and departmental meetings;
  - reviewing existing arrangements for safety at these meetings.

### **1.3. HEALTH AND SAFETY RESPONSIBILITIES**

#### **1.3.1 HEAD OF DEPARTMENT**

Overall responsibility for safety in the department lies with the Head of Department. The Head of Department is responsible for:

- Ensuring that the safety policy and the fire policy are effectively communicated to all staff; that the implementation of the policies are monitored and reviewed on an annual basis.
- Ensuring that buildings/premises where the activities are under the direct control of the department are inspected at least annually.
- Safeguarding the health, safety and welfare of all persons working in or visiting the department both with regard to safe condition of premises and with regard to provision of equipment which is mechanically and electrically safe.
- Ensuring that there are sufficient resources allocated to deal with health and safety issues in the department and that staff receive such instruction, information and training as is required to enable them to carry out their duties without undue risks to their health and safety.
- There is also a need to ensure that all information on health and safety hazards is provided to visiting researchers, contractors and maintenance engineers etc., who undertake work in the department.
- Where appropriate, training should be extended to include students.
- Ensuring that procedures are in place for the testing of all portable electrical equipment in the department whether owned by the individual, the department or another organisation (if on loan), and that records of these tests are kept.
- Ensuring that all accidents are reported on Accident Report form and that incidents of significance, even where no injury occurs, are suitably investigated.

- Ensuring that statutorily required assessments e.g. for Visual Display Units, for Manual Handling, or general risk assessments are carried out, and reviewed on an annual basis. All records of these are kept in the administration office and are available for inspection.
- Referring matters of general concern with regard to health and safety not only to the Head of Department, but also to the University Health and Service Division.

In practice, certain of these duties may be delegated to other staff such as the Departmental Safety Officers, Fire Wardens, etc, who then have the full authority to act on behalf of the Head of Department in specific capacities.

A list of staff with specific health and safety responsibilities is given in Appendix 1. A more detailed checklist for the management of health and safety in the Department is provided in Appendix 3.

Of these positions the Assistant Registry and Departmental Safety Officer have important co-ordinating roles, and a fuller list of the duties of these posts is outlined below.

### **1.3.2 ASSISTANT REGISTRARY**

- To advise and assist the Head of Department in fulfilling its fire, health, safety and well-being responsibilities and in ensuring that guidance on health and safety issued by the Departmental Health and Safety committee or issued by the University Health and Safety Division is adhered to, and distributed to staff/students as appropriate.
- To oversee the work of the Departmental Safety Officer and other staff in their roles as safety officers, fire wardens, first aiders, incident report officers, etc. and to ensure that their training is adequate and up to date.
- To oversee health and safety training, induction and related communications, for all Departmental staff, students and visitors, at all sites and for work outside the University. To identify the training or re-training needs of staff who transfer jobs within the department.
- To coordinate staff, resources and planning to ensure that Health and Safety roles are filled, and that appropriate steps are taken to assess risks, collate and prioritise the actions needed to manage risks, monitor that speed action takes place, report on progress at relevant committees, and maintain appropriate records.

### 1.3.3 DEPARTMENTAL SAFETY OFFICER

Specific duties have been delegated to the Departmental Safety Officer and these are as follows:-

- To advise and assist the Head of Department in fulfilling the health and safety responsibilities of the department and in ensuring that guidance on health and safety issued by the department or issued by the University Health and Safety Division is adhered to, and distributed to staff/students as appropriate.
- To liaise closely with the Departmental administrator on the coordination and monitoring of Health and Safety within the Department
- To act as a focal point for day-to-day issues e.g. providing advice to deal with problems, queries, accident reporting and investigation, training, assessments.
- To organise and conduct relevant departmental safety inspections with other staff. To maintain a record of such inspections on report forms and to risk assess procedures to ensure that work in the Department is done in accordance with its policy and the University Health and Safety policy.
- To ensure that all portable electrical equipment in the department, whether owned by the individual, the department or another organisation (if on loan) is subjected to electrical safety checks at appropriate intervals.
- To ensure that appropriate safety training is undertaken by staff.
- To provide new members of staff with information and/or induction training outlining local safety policy; accident and incident reporting procedures; information on means of escape in event of fire; fire evacuation procedures; first aid facilities; and names of staff with specific responsibilities for safety etc.
- To advise students re the items referred to in induction training above.
- To arrange for the prompt reporting of accidents, incidents and cases of occupational ill health in accordance with University procedures. To investigate these and to identify appropriate remedial action.
- To ensure that first aid boxes in the department are checked regularly by a suitable member of staff and that any deficiencies are reported and made good; and similarly to ensure that fire extinguishers and means of escape are inspected on a monthly basis and deficiencies dealt with.
- In matters of urgency to act with the delegated authority of the Head of Department and where appropriate to liaise with the University Health and Safety Division on these.
- To refer promptly to the Head of Department or the University Health and Safety Division any health and safety problems where there is uncertainty as to the standards to apply or which cannot be resolved in a timescale appropriate to the risk. Items of general concern re



resources, policies etc. can also be referred to the Departmental Health and Safety Committee. To review, periodically, health and safety policy, health and safety procedures in the department.

#### **1.3.4 STAFF**

Staff are responsible for:

- Observing all safety rules, procedures and instructions and relevant codes of practice.
- Making proper use of all work items, and equipment, provided.
- Not intentionally or recklessly interfering with or misusing anything provided in the interests of health and safety.
- Reporting to their immediate supervisor/line manager any observed defects or damage to property or equipment.
- Reporting to their immediate supervisor/line manager any hazards that come to their attention.
- Discussing any concerns over health and safety with their supervisor/line manager.
- Referring any important issues to team meetings via their Supervisor/line manager.
- Co-operating with any departmental and/or University safety rules.
- Discussing their safety training needs with their supervisor/line manager.

#### **1.3.5 STUDENTS**

Students should adopt the same principles as outlined for staff above. If students require further information, or are concerned about a particular health and safety topic then they should in the first instance raise this with a member of staff/their academic supervisor and then with the Departmental Safety Officer.

### **1.4. SAFETY INFORMATION**

Safety information is displayed on the Notice Boards in every Divisional building of the Department. Safety Literature is available online: <http://www.archanth.cam.ac.uk>.

### **1.5. HEALTH AND SAFETY RISK MANAGEMENT POLICY**

The Department is committed to achieving and maintaining the highest standards of health and safety for all employees, students and others who may be affected by the University's activities. This is accomplished by:

- The identification of work place hazards.
- The identification of people who may be exposed to the hazard

- The evaluation of the significant risks to which employees, students and others are exposed
- The recognition of the likelihood of foreseeable accidents, injuries, ill-health or near misses occurring
- The selection of realistic and practical precautions and control measures

This process is called risk assessment.

Risk assessment must be carried out as part of the safety management process and should include looking at the equipment we use, the places we visit, the buildings we occupy and the systems of work we employ.

The procedures for carrying out the various risk assessments can be found in the appropriate section of the Safety Manual.

## **1.6. PROCEDURES**

The organisation and arrangements for dealing with departmental safety issues - including the details of individuals with specific responsibilities - are given in Appendix 1.

Signed: ..... Date: .....

Professor Martin Jones

Head of Department

## 2. GENERAL SAFETY

### 2.1. ELECTRICITY

- Report immediately any malfunction of electrical apparatus, worn cable, damaged plugs or sockets to the local Departmental Safety Officer. Mains electrical plugs should only be fitted by approved staff.
- Do not use unfused adapters, use a fused ‘safe block’ or ask for more outlets to be provided.
- The correct fusing of equipment is essential and should be checked regularly. If a fuse blows, the equipment should be checked by approved staff. Never replace with a higher amperage fuse.
- Thermostat failure is a common cause of fire. Before leaving heating equipment for any length of time check that the temperature is constant.
- No equipment with electric motors should be used in the vicinity of flammable or explosive materials. Spark proof refrigerators or freezers should be used if solvents or other flammables are to be stored in them.

### 2.2. ACCIDENTS

- All accidents, potentially dangerous occurrences and major spillages must be reported to the Departmental Safety Officers.
- All accidents involving personal injury, however slight, should be REPORTED to a First Aider at once and an accident form completed. The names and telephone extensions of the Departmental First Aiders are displayed on Notice Boards in every Departmental building. The main Security Emergency number can also be contacted to locate a First Aider: Tel. 101. Emergency calls. In the event of a power cut or network problem, the Emergency Phones can be used to reach the University Security.
- An Accident & Incident Book is kept in each Departmental building. Online forms are available at <http://www.admin.cam.ac.uk/cam-only/offices/safety/accidents/>. “Near misses” should be reported so that potential accidents can be avoided.
- In the event of any accident, it is the quickness of action and application of the correct treatment which prevents serious injury. Members of staff qualified in First Aid may not always be on hand and everyone working in the laboratories should familiarise themselves with the basic action required to deal with accidents.

### 2.3. OUT OF HOURS EMERGENCIES

In the event of an emergency which requires the Emergency Services (e.g. fire, serious accident) **Dial 9999** (note any University telephone may be used). In the event of an incident out of hours which does not necessarily require the Emergency Services but which requires immediate attention, e.g. failure of security system, malfunction of electrical equipment, flood, please contact one of the following:

**Central Security Control Room 101**  
**Cockcroft Building, New Museums Site**

(In exceptional circumstances when the Control Room is unattended, a member of the Security Patrol Staff can be contacted directly by telephoning ext. **34184** and at the end of the dialling tone keying **04**).

In the event of a power cut or network problem, the normal University (VOIP) phones will not function. The red Emergency Phones are intended to maintain access to the Emergency Services (999) and also to the University Security Office's emergency number (01223 767444). The location of these phones is signed in each building.

### 2.4. FIRE

- All researchers should familiarise themselves with the location of the FIRE ALARM BUTTONS, the EMERGENCY EXITS and the FIRE ASSEMBLY POINTS for each building. In the case of a FIRE, act immediately and use the appropriate extinguisher. There are THREE TYPES OF EXTINGUISHERS in the premises for general use: CO<sub>2</sub>, water/gas and dry powder. Make sure you know where the extinguishers are sited and how to operate them.
  - \* CO<sub>2</sub> is suitable for the majority of small laboratory fires e.g. solvent, electrical etc.
  - \* Water/gas is better for paper fires: do not use it on electrical or solvent fires.
- INFORM the Departmental or Divisional Safety Officers at once whenever FIRE EXTINGUISHERS have been USED, however briefly, so that the used extinguisher can be sent for testing and refilling. Members of staff are responsible for seeing that all those working under their supervision are aware of this.
- In case you are not able to CONTROL THE FLAMES, close the door, sound the fire alarm and leave by the nearest exit.
- In the case of a FIRE ALARM, everyone must evacuate the buildings immediately. The Fire Brigade is summoned automatically when the alarm sounds.
- For emergencies during normal working hours, follow the instructions of the Fire Marshals. Fire Marshals are responsible for checking that their designated area is completely evacuated and then reporting to the Fire Officer at the FIRE ASSEMBLY POINTS.

- Lifts should not be used if the fire alarm is operating. You may be trapped by electrical failure or overcome by smoke concentrated in the lift shaft.

The fire alarms are tested on a regular basis. Fire Drills are carried out periodically. Everyone is expected to leave the buildings as quickly as possible, and proceed to the assembly point

## **2.5. SERIOUS INCIDENT PROCEDURE**

In addition to Fire, a serious incident could involve explosion, chemical leakage, release of pathogens, radiation incidents or a bomb threat. In the event of a very local incident, you will be instructed to evacuate to a safe part of the building. In the event of a more widespread incident, the evacuation procedure will be as for fire (i.e. the fire alarms will sound continuously and you must evacuate the building immediately and then report to the Fire Assembly Point).

## **2.6. OFFICE SAFETY**

There is a need for awareness of the potential hazards present in the modern office.

- Maintain a clean and tidy working area.
- Do not tamper with, or attempt to repair, electrical equipment. Always consult the relevant responsible staff member, or if unsure, the local Department Safety Officer.
- Lighting facilities and ventilation should be adequate to maintain a comfortable working environment.
- Seating arrangements, keyboard positions and VDU location should be adapted to meet the needs of the individual office worker. (See <http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd116p/index.html>)
- When handling photocopier toner, follow the handling instructions provided by the manufacturer.
- Solvent-based correction fluids can be harmful if inhaled, swallowed or splashed into eyes so they need to be handled carefully.
- Guillotines must have guards.
- Only open one drawer of a filing cabinet at any one time to avoid overbalancing.

## **2.7. INDUCTION & TRAINING OF NEW WORKERS**

All new members of the Department must receive appropriate induction training.

- For new staff members, the individual's line manager or other appointed person is responsible for ensuring that they are inducted according to University guidelines: <http://www.admin.cam.ac.uk/cam-only/offices/hr/forms/pd24/>

- All those working within the research environment of the department should complete the Department individual safety training record: <http://www.archanth.cam.ac.uk/safety>
- All those carrying out research in Department laboratories should complete the Department laboratory individual safety training record: <http://www.archanth.cam.ac.uk/safety>

## **2.8. VISITORS & CONTRACTORS**

### **2.8.1. VISITORS, INCLUDING CHILDREN**

Visitors to the Department whose visit duration is of one day or less should not be left unaccompanied at any time. Children under the age of 16 years should not be left unaccompanied at any time and are not allowed in laboratories without explicit risk assessment being undertaken.

The University owes a general duty both at common law and in certain circumstances under statute to take reasonable care of persons coming on to its premises or under the control or supervision of its staff. The adoption and implementation of a Child & Vulnerable Adult Protection policy facilitates the management of the risk associated with this duty.

<http://www.admin.cam.ac.uk/offices/hr/policy/protection/>

### **2.8.2. CONTRACTORS**

The presence in the Department of contractors and those whose normal place of work is not the Department should be managed safely and securely. Guidelines are provided here:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd015m/index.html>

University Guidelines on Permits to Work can be found here:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd038m/index.html>

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd133m/index.html>

## **2.9. NEW AND EXPECTANT MOTHERS AT WORK**

(EUROPEAN DIRECTIVE 92/85) EEC ON PREGNANT WORKERS

In many workplaces there are specific risks that may affect the health and safety of new and expectant mothers and that of their new child. The Management of Health and Safety at Work Regulations 1999 is legislation that protects the health and safety of new and expectant mothers at work, including:

- those who are pregnant
- those who have recently given birth
- those who are breast feeding

Legislation requires employers to take particular account of the risks to new and expectant mothers, in their work activities. If risks cannot be avoided, then changes to the work pattern or suitable alternatives must be offered.

New and expectant mothers have a duty to protect themselves and must notify the University Health and Safety Office as soon as pregnancy is confirmed. Staff who are or believe they are pregnant must notify the Safety Officer in writing as soon as pregnancy is confirmed, by completing the Risk Assessment Form (See <http://www.admin.cam.ac.uk/cam-only/offices/oh/pregnancy/index.html>).

A risk assessment of the working environment and work activities will then be undertaken by the Safety Officer and the Supervisor of the member of staff concerned, and a written record will be kept. The Safety Officer will treat the notification and subsequent risk assessment confidentially, if this is requested. There may, however, be occasions when the Head of Department would need to be involved in the risk assessment. If a risk is identified, then it may be necessary to take appropriate action to reduce or remove the hazard.

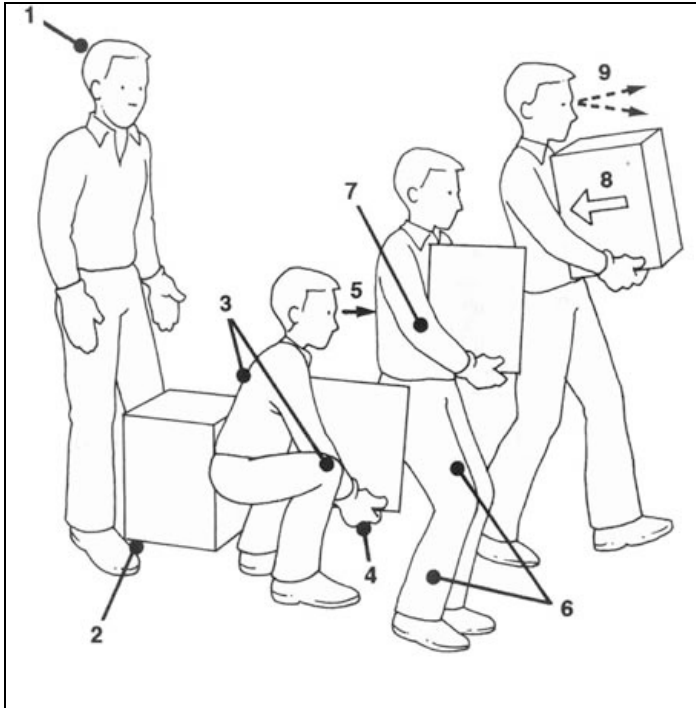
For those working within laboratories, it is essential that an awareness of the chemical and biological hazards specific to new and expectant mothers are indicated as part of laboratory induction procedures to **all researchers**.

## **2.10. MANUAL HANDLING**

Any manual handling that may be of risk or harm to the individual should be assessed before the task begins. Only lift what you know you are capable of lifting. Take all reasonable practical measures to reduce the risk, by using the correct lifting technique. Assess the weight and if the item looks or feels too heavy use a trolley or seek help. Anyone engaged in manual handling as part of his or her job should undergo the appropriate training.

Please see: <http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd149p/index.html>

## Safe lifting Procedure



- Get close to the object and adopt a stable position. Place feet apart one leg slightly forward to maintain balance and pointing in the direction you intend to go.
- Stand in a good posture at start of the lift and slightly bend your back, hips and knees. Get a good grip- gloves may improve your grip
- Pushing up with your legs, lift smoothly and slowly keeping the object close to your body and keeping the load between knees and shoulder.
- Pivot with your feet instead of twisting with your back and look straight ahead not down at the load once it is securely held.
- Lower the load carefully; reversing the lifting process and once down slide it into position.



### 3. RISK ASSESSMENT

Risk assessment forms must be completed by graduate and undergraduate students as well as all researchers from the Department before carrying out lab work, fieldwork or offsite working in the UK or abroad.

The risk assessment is to identify the hazards associated with the work, and to examine carefully what could cause harm to people; taking into account any existing precautions and their effectiveness.

The steps to risk assessment are

1. Identify any hazards and if possible remove them.
2. Identify the people who may be affected by the hazard
3. Evaluate the significant risks and determine the appropriate procedures and precautions required
4. Recognise the likelihood of any foreseeable accidents, injuries or ill-health.

Some items arising under risk assessment may require assessment under different regulations which may include:

- CoSHH regulations (Control of Substances Hazardous to Health)
- Genetically modified organisms (GMO)
- DSE display screen equipment
- Risk assessment forms are available from your Supervisor or the Department Safety Officers.
- The assessment should be read and signed by your supervisor or the Head of Department in the case of staff. In the case of non-established members of staff, the assessment should be signed by the supervisor or collaborator in the Department with whom the project is being developed.
- It is important to note that submission of the risk assessment is required before approval of Leave to Work Away is granted from the Faculty Degree Committee. Details of insurance, a copy of your itinerary and contact details must be provided.
- Fieldwork risk assessment is essential. Please refer to Section 4.1.1 for more information.
- Please note that it is important when working in the field that all accidents are recorded and a report sent to the Health and Safety office on your return.
- All completed forms must be returned to the Divisional Offices where they will be stored.
- Risk assessments will be reviewed annually or sooner if personnel or work changes.

## **4. FIELDWORK ACTIVITIES & SAFETY**

For the purposes of this manual, 'fieldwork' is defined as any activity undertaken by researchers as part of their academic commitments which takes place outside the normal confines of the Department. Fieldwork for day and residential field trips forming part of Undergraduate or Masters' courses will normally be planned, but not necessarily supervised, by a member of the academic staff. Fieldwork for final year dissertations (Undergraduate) will be planned by the student in consultation with his/her Director of Studies, and for Masters' and Ph.D. dissertations and in consultation with the Supervisor. Fieldwork for staff will be planned by the researcher, in consultation with their supervisor or line manager where necessary. Risk assessments must be carried out for each type of offsite working.

University advice on Fieldwork Safety can be found here:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/fieldwork/>

### **4.1. BEFORE YOU GO**

#### **4.1.1. RISK ASSESSMENT**

All individuals working within the Department of Archaeology & Anthropology whose primary academic affiliation is the University of Cambridge should complete and file a fieldwork risk assessment with the Department prior to any offsite working. This includes:

- all staff members
- all research students
- emeriti academics retired from the University of Cambridge or who are currently working within the Department
- affiliated scholars for whom the University of Cambridge is their only academic affiliation

For larger projects (concerning several individuals), the lead researcher should complete a Project Safety Plan.

Each Division may have specific regulations for fieldwork and offsite working above and beyond what is listed here. Please consult each divisional website for specific information.

#### **4.1.2. LEAVE TO WORK AWAY**

Before students may depart for their period of fieldwork they must complete a 'Leave to Work Away Application Form'

<http://www.admin.cam.ac.uk/students/studentregistry/current/graduate/programme/workaway.html>.

It must be obtained during the term before departure. Consideration is given to the request, which goes to the Division's PhD Committee and then to the Degree Committee of the Faculty.

The granting of leave to work away is contingent on the satisfactory completion of a fieldwork risk assessment.

#### **4.1.3. INSURANCE**

The University provides travel insurance for employees and registered post-graduate students of the University of Cambridge and its subsidiary companies whilst travelling abroad on University of Cambridge business. Cover is also provided for graduate students registered with the University of Cambridge and for undergraduates of the University of Cambridge and official volunteer workers travelling on supervised departmental fieldtrips outside the UK. Currently no charge is made for this cover, the costs being met by the University's insurance budget. However and most importantly, employees, registered post-graduate students and departments (in the case of fieldtrips) are required to apply for cover using the appropriate application process. The various application processes are listed here: <http://www.admin.cam.ac.uk/offices/insurance/travel/>

University travel insurance is conditional on the satisfactory completion and submission of a risk assessment. This does not obviate the need to file a risk assessment with the Department Safety Officers.

#### **4.1.4. HEALTH & FITNESS**

Please ensure that you are appropriately prepared prior to fieldwork. You should ensure that you are immunised against tetanus and any other disease you may be at risk from. Consult your supervisor if appropriate, the University Occupational Health Service, and your GP well in advance of departure. Courses of inoculations may be required well in advance of the date of departure.

Advice on Travel is available from Occupational Health:

<http://www.admin.cam.ac.uk/cam-only/offices/oh/services/travel/index.html>

You should take all medicines etc. that may be needed to deal with any medical conditions that you may have. If you intend to spend long periods in isolated areas, arrange to have a dental check up before departure.

## **4.2. FIELDWORK ACTIVITIES**

Each individual takes responsibility for her/his conduct insofar as it follows the law of the country in which the research activity takes place (principle of subsidiarity). This means finding out the legal position(s) with regard to fieldwork, excavation, sample collection, export, import, preservation, ownership and storage of finds, participant observation and interviews, etc. and taking

active measures to comply with or support them. Specific categories of fieldwork activities are addressed below, but this list is not comprehensive. All workers should consider all aspects of their fieldwork activities in completing their risk assessment and travel plans.

#### **4.2.1. WORKING WITH LIVING HUMAN SUBJECTS**

##### **Ethical permission**

When conducting research on living human subjects, be it invasive (e.g. taking a blood sample) or not (e.g. measuring height or weight), it is necessary to get ethical permission for the work which must be in accord with the ethical principles of the Declaration of Helsinki. The Declaration includes principles of (a) safeguarding research subjects (b) informed consent (c) minimising risk and (d) adhering to an approved research plan/protocol.

If the research is being conducted in the UK then this should be approved by the Departmental Safety Committee initially. After approval it should also be approved by the University Committee. For research conducted abroad ethical permission must be obtained from the local government committee, e.g. Medical Research Council, for which a fee may be payable. It is the responsibility of each researcher and/or their supervisor to comply with all necessary legislation and regulations.

##### **Informed Consent**

All participants in the research have to sign a consent form that provides full details of the aims and objectives of the study, the protocols being used and what feedback is to be given to each participant. If illiterate the consent form should be read out to the participant and a thumb print taken in lieu of a signature. For children it is the parent or guardian who signs and if illiterate a thumb print is used.

##### **Interviewing And Participant Observation**

Interviewing and participant observation can both be hazardous. Exercise common sense, discretion and due caution in deciding whom you should approach in relation to such activities.

All areas of potential risk should all be addressed in your pre-fieldwork assessment.

#### **4.2.2. SAMPLE COLLECTION & TRANSPORT TO THE DEPARTMENT**

Some categories of material (e.g. plants, soils, animal tissues) require special licences to import them into the UK, or export them from the country of origin. Some countries require export permits for archaeological material. All workers should discuss their proposed project with the lab technician at the planning stage of any project, together with plans for importing material from outside the UK in order to ensure relevant Licences and documentation are in place before the

importation. Please see the relevant subsequent sections of this manual concerned with plants, soils, animal and human samples.

Information on DEFRA/FERA licences for the import of animal products can be found here:

<http://www.defra.gov.uk/animal-trade/imports-non-eu/>

As of Feb 2014, an IV58 licence is required. Please contact your BSO for more information.

The Department is registered to receive and handle Animal By-products (AVHLA registration number U1175965 ABP) for Material Categories 1,2 & 3 for diagnostic, educational and research purposes.

For species covered under CITES regulations, a separate permit is required:

<http://www.defra.gov.uk/ahvla-en/category/forms/cites/>

All samples must be shipped in accordance with IATA regulations, and the University of Cambridge's policy on the transport of hazardous materials:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd057b/index.html>

It is the responsibility of each researcher and/or their supervisor to comply with all necessary legislation and regulations.

### **4.3. GENERAL BEHAVIOUR**

All researchers taking part in fieldwork should observe sensible standards of behaviour, conduct themselves with good manners and consideration for others (particularly in hotels or other accommodation), and not damage property, e.g. by climbing over walls, leaving gates open, trampling crops or disturbing animals.

- Always obtain permission when working on private property.
- Do not disturb the environment more than is absolutely necessary.
- Do not collect specimens unless strictly required for serious study.
- Do not leave litter.

#### **Fitness and Accidents**

Recognise your own physical limitations and work within them. If you begin to feel ill or have an accident during fieldwork, act immediately. Failure to do so could jeopardise an insurance claim.

Remember that medical complications which may arise from illness or an accident are often delayed.

#### **Personal responsibility and liability**

Fieldwork often involves special risks resulting from location and/or weather. The potential dangers make it imperative that you should behave responsibly in order to reduce the risk of accidents to

yourself and others. You are personally responsible by law for observance of safety provisions and may be held liable if accidents arise through failure to observe these.

### **Avoiding Risks**

Always act with caution, especially if the environment is one with which you are not personally familiar.

- Check weather forecasts. Keep a constant look-out for changes and do not hesitate to turn back if weather deteriorates.
- Avoid confrontations with dogs, livestock and wild animals, especially overseas
- Do not consume water from dubious sources.
- Never touch machinery or equipment which does not belong to you, or if you have not been instructed in its use.
- When using machinery or equipment, familiarise yourself with, and adhere to, any special safety regulations that apply.
- Beware of traffic; keep off railway land and motorways unless you have been given specific permission to work there.

### **Proper Clothing And Footwear**

Always wear suitable clothing and footwear and carry suitable safety equipment. Clothing and footwear should anticipate the worst potential weather and terrain. When working in remote areas, this should include a first aid kit, emergency food and water, survival bag, torch and spare batteries, whistle, map and compass (and know how to use them).

Guidelines for appropriate clothing for different climates can be found here:

<http://www.arch.cam.ac.uk/safety/>

### **Environment**

Fieldwork is carried out in a wide range of geographical environments. You should be aware of the particular challenges of each environment, and should address the hazards and risks in your fieldwork risk assessment. Useful guidelines as to fieldwork in different environments is provided here: <http://www.arch.cam.ac.uk/safety/>

### **Transport**

Any vehicles, boats, or other forms of transport used must be operated only by authorised persons experienced in their use. Comply with local legislation in the operation of all forms of transport.

- In road vehicles the safety belts provided must always be used.
- Do not exceed the maximum seating capacity of the vehicle.
- When travelling in a minibus, keep the rear door unlocked and the central aisle free.
- External loads must only be carried if securely fixed to approved racks, and overloading must be avoided. Take the vehicle to a public weighbridge to ensure this.

- Do not operate a boat unless you have all the necessary training. Always wear a life jacket and know how to use it. When using boats at sea or on large bodies of water, inform the Coastguard of the work to be undertaken and ensure that the boat is equipped with all necessary safety equipment.

### **Safety Equipment For Outdoor Fieldwork In Remote Areas**

The essential requirements are:

- to enable you to navigate safely;
- to provide first aid to others in distress;
- to summon help in case of an accident.

A useful checklist can be found here: <http://www.arch.cam.ac.uk/safety/> :

Know how to navigate with a compass and map. Know the International Distress Signal.

Safety wear (e.g. safety helmets, protective eye goggles/shields) are required in some circumstances. Your initial pre-fieldwork risk assessment should determine if safety wear is necessary.

#### **4.3.1. GENERAL GUIDELINES FOR SAFE FIELDWORK**

Fieldwork safety is largely a matter of basic common sense, and the recommendations and rules below do not attempt to cover every possible risk or injury which may be encountered. However, they are a guide to safe procedures and will, it is hoped, lead those taking part towards an awareness of safety in all activities undertaken away from the Department.

- Plan your work carefully, bearing in mind your experience and training, the nature of the terrain and weather, and potential local hazards. Be careful not to overestimate what can be achieved.
- Take sufficient breaks – most accidents in fieldwork come about when people are tired and have lost concentration.
- Avoid working alone at any time unless absolutely necessary. Never work alone when there is a high risk of danger.
- Always carry emergency contact addresses and telephone numbers with you. Make sure that these are appropriate for the country or area in which you are working. Know where you can and can't get mobile phone coverage locally.
- Ensure you have sufficient local knowledge about risks and hazards in your area of work.
- Know how to express yourself in the local language in case of emergency – all field crews should have a local language speaker and driver.
- Know your location on the map and the nearest route to safety.

- Always leave a route card before going into the field. Show expected location and time of return, and preferably a map. Ensure someone knows you have gone and expects you back. Never carelessly break arrangements to report your return.
- Know what to do in an emergency. In the event of an accident during independent work you are responsible for notifying the Head of Department and/or Departmental Safety Officer and for submitting an accident report form and self-supporting factual report to the Departmental Safety Officer. In the event of an accident during a field trip, the leader is responsible for notifying the Head of Department and/or Departmental Safety Officer and for submitting an accident report form and self-supporting factual report to the Departmental Safety Officer.



## 5. LABORATORY SAFETY

### 5.1. GENERAL GUIDELINES

- It is your responsibility to ensure that your actions do not jeopardise your SAFETY or that of others working within your environs.
- It is essential that you understand how to operate any EQUIPMENT you are using, as misuse can lead to personal injury or expensive damage. For these reasons all new members of the Department must be instructed by their Laboratory Technician or Manager on the correct use of equipment and materials. If you are unsure of the correct procedure obtain help before starting.
- Laboratory coats MUST be worn when working in laboratories but should be removed when leaving the laboratory.
- Lab coats and gloves should NOT be worn in corridors or offices. Smoking in the work place is strictly prohibited
- All workers are responsible for ensuring that their EQUIPMENT is safe and free from any contamination before requesting either a repair or a service.
- SAFETY SPECTACLES or visors must be worn when carrying out any procedure where there is a risk of eye injury. Safety spectacles are available from Laboratory Managers or Technicians.
- WINCHESTER BOTTLES should be carried with a proper carrier. Do not carry them in your arms or by the neck of the bottle.
- MOUTH PIPETTING is forbidden. Mechanical pipetting devices should always be used.
- FOOD and DRINK must not be consumed in laboratories or stored in laboratory refrigerators or freezers.
- SAMPLES stored in refrigerators and freezers should be labelled with the date, the owner's name, and hazard label if appropriate.
- High risk activities should not be undertaken out of normal WORKING HOURS. If working alone out of hours, please follow the appropriate Lone Working policy for your building.
- All workers should familiarise themselves with the location of FIRST AIDERS, first aid boxes, fire alarms, fire extinguishers and emergency exits in the laboratories. FIRE DOORS should never be left open unless they are regulated by a system which closes them in the event of a fire.

- All workers are responsible for maintaining their laboratory in a CLEAN AND TIDY condition. When leaving the premises, they are responsible for the safe disposal of all their disposable instruments, and any chemicals, solvents, etc., that they may have used.
- Any APPARATUS which is left on OVERNIGHT should be checked by the worker concerned to ensure that there is no danger of fire or flood. Any service or apparatus which is running continuously should be labelled accordingly. Permission to leave any apparatus on overnight must be sought beforehand from the lab technician.
- FUME CUPBOARDS should not be used as storage areas.
- Members of the Department are reminded that laboratories and workshops are particularly dangerous places for children. Staff are NOT permitted to bring children into these areas and if special permission is granted to visit the premises they must NOT be left unsupervised.
- Research groups should have Standard Operating Procedures for those experimental methods which involve the use of hazardous or potentially hazardous materials, and their requirements should be followed at all times. Hazardous material should NOT be handled until instruction has been given regarding any necessary precautions.

## 5.2. PERSONAL PROTECTIVE EQUIPMENT

Personal protective equipment (PPE), if worn, MUST be worn correctly. This is of particular importance with Respiratory Protective Equipment (RPE) such as face-masks.

- RPE should be the line of last resort, where it is not possible to use other methods of control
- RPE must be correctly chosen:  
<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd009c/hsd009c.pdf>
- Workers should not wear RPE unless they have been “face-fitted”:  
<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd119e/index.html>
- Safety glasses to British Standard (BS166) must be worn whenever handling hazardous chemical liquids.

Ordinary spectacles do not provide adequate protection.

- Appropriate gloves should be worn when handling substances that may be absorbed through the skin or that are corrosive, harmful, irritant or otherwise damaging to the skin. Check individual chemical breakthrough times on manufacturer’s websites before selecting gloves. Longer sleeved gloves should be worn if the wrists and arms are also at risk of contact with the substance:  
<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd059c/index.html>
- Latex gloves are to be avoided:  
<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd034c/index.html>

- Lab coats should be regularly laundered
- Lab coats and gloves should NOT be worn in corridors or offices.

### 5.3. HEALTH SURVEILLANCE

Health surveillance is a method of systematically detecting early signs of work-related ill health in employees that could be related to workplace exposure to hazardous substances, and acting on the results.

If your workplace risk assessment indicates the need for health surveillance, then you must contact Occupational Health: <http://www.admin.cam.ac.uk/cam-only/offices/oh/services/surveillance/>

#### 5.3.1. WHEN MAY HEALTH SURVEILLANCE BE NEEDED?

Criteria for conducting health surveillance includes when:

- an individual being exposed to a hazardous substance that is linked to an identifiable disease of adverse health effect
- there is reasonable chance that the disease or adverse health effect may occur under the conditions of work
- there are valid techniques of detecting the disease or adverse health effect.

At the University health surveillance is likely to be necessary where there is exposure to:

- carcinogens – in practice valid tests and techniques do not exist but the a health record is needed
- dangerous pathogens, eg hepatitis B, HIV and TB
- certain sensitisers, such as substances that may cause occupational asthma, eg laboratory animals, mineral oils, wood dust, solder fumes
- substances that may cause dermatitis, eg latex, mineral oils
- noise and vibration
- substances with systemic toxicity such as lead and mercury.

### 5.4. DISINFECTANTS

The following disinfectants are to be used at the concentrations given for the purposes listed. The choice of a particular disinfectant for any given application should be discussed with the Safety Officer if there is any question over its effectiveness with the infective agent involved. If in any doubt, autoclave the infected material and seek advice from the Safety Officer.

- **Clearsol:** 2% in 70% spirit for minor spills or surface disinfection.
- **Ethanol/Lifeguard:**

- **Ethanol:** Use only at 70% v/v as a disinfectant (higher and lower dilutions are not effective) and only on essentially "clean" items. It is not suitable as a general disinfectant. It is recommended that ethanol be used as a general disinfectant in the wiping down of laboratory benching in Category 1 areas etc. but not for the decontamination of large spillages of material contaminated with virus or bacteria for which chlorox should be used. **Do not** use methanol.
- **Lifeguard:** Disinfectant can be used neat as an alternative to 70% ethanol for the general disinfection of laboratory benching in Category 1 areas.
- **Chlorox:** Use at about 5% v/v for spills and 10% for inactivation of contaminated medium - such material should be inactivated for at least 2 hours prior to disposal down sluice. Chlorox should be used with all unenveloped viruses and material derived from human specimens, e.g. blood, serum, human cells or tissues etc.
- **Virkon:** A disinfectant effective against most viruses and gram negative bacteria with a concentration of 2%.

**Gluteraldehyde** is NOT to be used as a disinfectant within the Department. Any other disinfectant is to be used according to the manufacturer's instructions. A full risk assessment should be carried out for all disinfectants.

## 5.5. DISPOSAL OF WASTE

All waste must be disposed of in accordance with University regulations. The University policy can be found here: <http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd018c/>

### Decontamination of glassware washing

- Apparatus put out for washing up must not contain solutions or substances which are corrosive, poisonous, radioactive or contain micro-organisms or viruses.

### Chemicals

- Chemicals, whether in a container or not, must not be placed in waste bins. The advice of the Lab Supervisor or Safety Officer should be sought as necessary.

### Chemical waste

- Laboratory waste (gloves, tissues etc) are not considered to be hazardous if they contain less than 0.1% v/v of chemicals. This waste can be bagged and placed in the non hazardous normal waste stream.

- Bulk waste or any waste contaminated with  $\geq 0.1\%$  v/v chemicals must be collected separately in a suitable container and disposed of via the University's waste collection service.

#### **Ethidium Bromide waste**

- Ethidium bromide waste must be decontaminated of in accordance with University policy. Please see Section 5.7.5 for full information.

#### **Solvents**

- Flammable solvents **must not** be poured down sinks. They should be collected in Winchester's. Clearly record the contents before making arrangements for disposal with the University Safety Office. Solvents for disposal should not be mixed in containers unless it is known that the mixture is not dangerous.

#### **Azide**

- Mixtures containing sodium azide must not run to waste through copper pipes as the very explosive copper azide may be formed. Consult the Lab Supervisor for advice on disposal.

#### **Broken glass**

- Uncontaminated broken glass and Pasteur pipettes must be disposed of in the special 'broken glass' bins. Contaminated glassware must be decontaminated before disposal.

#### **Syringes and needles**

- All hypodermic needles and syringes must be placed in "sharps" disposal boxes provided. "Sharps" boxes must be autoclaved or incinerated before disposal.

#### **Sterilisation of materials**

- All cultures, biological waste specimens and unused culture media must be autoclaved before disposal.

#### **Scintillation vials**

- Do not allow used scintillation vials to accumulate in laboratories, or adjacent to counters. They should be emptied, and decontaminated prior to washing or disposal.

#### **Radioisotopes**

- For disposal of radioactive material see the University Safety website.

## **5.6. ACCIDENTS**

The nature of research in the laboratories is such that most work does not involve high risk materials and procedures. Nevertheless, if any of the following were to happen:

#### **Concentrated acid or alkali on the skin**

- Flood the splashed surface thoroughly with cold water and use soap to neutralise the acid/alkali. Continue until satisfied that no chemical remains in contact with the skin (at least 20mins).
- Remove all contaminated clothing, taking care not to contaminate yourself in the process.
- If necessary take person affected to hospital, or refer him/her for appropriate medical advice.

### **Splashes in the eye**

Eye protection should be worn for any work where there is a potential hazard but if an accident occurs

- Flood the eye thoroughly but gently with water for at least 5mins. Eye wash points are located in each laboratory and are checked regularly by the local First Aider.
- Seek medical advice for all eye injuries from chemicals.
- Take the injured person to hospital with the information on the chemical and brief details of the emergency treatment.

### **Ingestion of poisonous chemicals**

- If the chemical has not been swallowed wash the mouth out thoroughly with water. Do not swallow the mouth wash.
- If the chemical has been swallowed, give copious amounts of water or milk to dilute it in the stomach. DO NOT INDUCE VOMITING. Take the person to hospital.
- Provide information on the chemical swallowed with brief details of the treatment given and if possible an estimate of the quantity and concentration of the chemical consumed.

### **Cuts and scratches**

All wounds and scratches, even minor wounds, should receive attention immediately. In the event of an accident resulting in a wound, immediately encourage it to bleed, wash thoroughly with soap and water but DO NOT SCRUB, and cover with a waterproof sterile dressing. Cuts with glass must be cleaned carefully. Small fragments of glass must be removed before dressing the wound. If there is a large piece of glass in the wound do not remove it as severe bleeding may start. Get the injured person to hospital. To control severe bleeding squeeze the sides of the wound together and apply direct pressure on the bleeding point.

### **Burns and scalds**

Cool the affected area by immersing in cold water or cover with a wet cloth. Speed is essential. Continue for at least 10 minutes or until pain is relieved, then cover with a sterile dressing. Never use an adhesive dressing.

### **Electric shock**

Switch off the current. If this is impossible, free the person using something made of rubber, cloth or wood. Do not touch the victim's skin before he has been removed from contact with the current. If breathing has stopped, give artificial respiration until the ambulance arrives.

### **Phenol**

Wash with copious quantities of cold water and gentle rubbing with soap and continue swabbing for at least 5 minutes. Gloves and suitable eye protection should always be worn when using phenol.

## **5.7. CHEMICALS**

### **THE CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS 1994 (*COSHH* REGULATIONS)**

The purpose of the regulations is to protect the health of those who are exposed to hazardous substances at work. The risks to health from existing work activities need to be assessed. It is likely that the majority of hazard assessments will end up by concluding that through the application of good laboratory practice and by following specified pre-existing codes of practice present in the Department of Archaeology & Anthropology and University safety policies, the exposure to the hazardous substance can be prevented or controlled to the point when it is no longer a hazard to health. The assessment is then complete, but there will be a continuing duty to ensure that the local rules are followed in practice, to assess any new work activities introduced into the group, and to review assessments annually. If deficiencies are identified during the assessment, then these will need to be remedied, either by modifying the work activity, implementing appropriate control measures to minimise the exposure or, in extreme cases, by stopping the work until suitable engineering control measures have been installed.

A guide to Hazardous Substance Risk Assessment is given here:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd131c/hsd131c.pdf>

#### **5.7.1. GUIDELINES FOR THE ASSESSMENT OF HAZARDOUS COMPOUNDS**

- Consider whether you really need to use the toxic compound in question. Is there a less dangerous alternative?
- Consider the most likely routes for exposure and identify those routes which are especially dangerous (e.g. inhalation).
- Consider how the poison acts: is it or its effects cumulative or unpredictable? (e.g. acrylamide, chlorinated hydrocarbons cause cumulative damage; carcinogens are unpredictable).

- Pay particular attention to whether a single individual is repeatedly exposed to the toxic compound or related compounds.
- Acute poisons (e.g., cyanide, azide) should be kept in a designated locked poisons cabinet. It is probably reasonably safe to handle them under general good laboratory practice rules when the LD50 for a 50 kg human exceeds 100 mg or where the total content of any aliquot is less than 1/100 of a LD50. That is, it is unlikely that an intake of this order, or anything within two orders of magnitude could occur by accident if normal safe handling is in force.

### 5.7.2. HANDLING CHEMICALS

- Know the potential hazards and safety precautions necessary for every procedure that involves chemicals.
- Copies of MSDS forms for all chemicals used in each laboratory can be found in each laboratory, as well as online from the manufacturers
- Never use toxic substances without taking the proper precautions and making arrangements for safe working. Wear suitable gloves, which should be washed before removing from the hands.
- Never leave a laboratory area before removing gloves.
- Use a fume cupboard wherever possible for procedures involving toxic or hazardous compounds or volatile solvents.
- Do not place flammable solvents in refrigerators or freezers unless you know that it has been specially modified for use of flammable solvents.
- Be sure that all chemicals and reagents are properly labelled. Label all newly prepared reagents with name of contents, date and your name.
- Store known highly toxic chemicals (e.g., those marked with a skull and cross bones) in a separate marked and lockable cupboard wherever possible.
- Store bulk quantities of flammable or corrosive solvents and reagents in designated safety cabinets.
- Do not leave bulk chemicals (e.g., Winchesters) on shelves, benches or floors.

Disposal of toxic substances is via the University Chemical disposal service. Arrangements should be made through the Department.

### 5.7.3. TRANSPORT OF HAZARDOUS MATERIALS

All samples known to be or considered potentially to be hazardous must be transported in accordance with the University of Cambridge's policy on the Transport of Hazardous Materials:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd057b/index.html>



#### 5.7.4. SPILLAGES OF CHEMICAL MATERIALS

Spillage Resource Kits are held in each Laboratory. Use a non-reactive material such as sand or vermiculite to absorb the liquid, which then can be neutralised if necessary before disposal. If the spilled liquid reacts with anything to give off fumes, cordon off the area or close the room and evacuate personnel if necessary. Contact the relevant laboratory technician for further instruction. If the equipment or apparatus is contaminated by spillage, this must be decontaminated by the user before being sent for repair.

#### 5.7.5. ETHIDIUM BROMIDE

- Ethidium Bromide intercalates into the DNA and forms an efficient energy transfer agent when stimulated with ultraviolet light. It is a recognized mutagen and carcinogen. Inhalation of the dust and absorption through the skin when in solution are the obvious routes of exposure.
- Care should be exercised in handling ethidium bromide. Always buy ethidium bromide as a solution in accordance with University policy and store the container safely.
- Ethidium bromide should only be used in the designated area of the lab. All items used in this area should be clearly marked and should not be moved into other areas. Gloves should always be changed after working in this area before moving into other parts of the lab.
- Gels stained with ethidium bromide must be rinsed in distilled water before viewing and photographing to prevent contamination.
- All apparatus must be thoroughly rinsed with water following use with buffers containing ethidium bromide.
- **Disposal of ethidium bromide down the sink or drains is strictly prohibited.** Anglian Water will not permit the disposal of any DNA stains via the drains on “principle”.
- Used buffers should be decontaminated using a specialised “teabag” before disposal into the drain. Manufacturer’s instructions should be followed but in general a maximum of 10mg can be treated per teabag.
- Waste gels, gloves, tissues etc are not considered to be hazardous if they contain less than 0.1% v/v of ethidium bromide (including tissues used to mop up buffer, gloves, loading pipette tips etc.). This waste can be bagged and placed in the non hazardous normal waste stream.
- Bulk waste or any waste contaminated with  $\geq 0.1\%$  v/v (e.g. used decontamination teabags, pipette tips used with concentrated ethidium bromide) must be collected separately in a suitable container and disposed of via the University’s waste collection service.

- Agarose gels stained with ethidium bromide should be rinsed under the tap then sealed in a plastic bag before disposal in the general waste.

Please refer to the University guidelines for further information:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd123c/index.html>

## **5.8. BIOLOGICAL SAFETY**

### **5.8.1. GENERAL GUIDELINES**

All work involving biological materials is required to be done under conditions which at a minimum required good microbiological practice and which in some cases require a higher degree of containment. Please see the University guidelines on Safe Biological Practice (SBP) for Prevention and Control of Exposure to Biological Agents in the Laboratory:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd028b/hsd028b.pdf>

All researchers should ensure that they are aware of the different classification systems relating to biological safety, and work at the appropriate containment level:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd106b/hsd106b.pdf>.

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd111b/hsd111b.pdf>.

Standard operating procedures are available for specific areas. Please consult your Supervisor or local Department Safety Officer.

### **5.8.2. PATHOGENS**

Anyone wishing to work with potentially pathogenic organisms, or anyone who is working with micro-organisms or viruses for the first time, should consult the Biological Safety Officer and should carry out a risk assessment for the proposed work in accordance with the ACDP guidelines:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd111b/hsd111b.pdf>

and <http://www.hse.gov.uk/pubns/misc208.pdf>

### **5.8.3. GENETIC MANIPULATION**

Before starting experiments involving genetic manipulation in the laboratory, all workers must discuss their proposed research with the Chair of the Department Safety Committee, the Department Biological Safety Officer and the local Department Safety Officer, who will advise on the feasibility of the research and the necessary Health & Safety precautions to be undertaken. Genetic manipulation is defined as the formation of new combinations of heritable material by the insertion of nucleic acid molecules, produced by whatever means outside the cell, into any virus, bacterial plasmid, or other vector system so as to allow their incorporation into a host organism in which they

do not naturally occur but in which they are capable of continued propagation. Host organisms include: **Plants, Animals** and **Micro-organisms**.

#### **5.8.4. GENETICALLY MODIFIED ORGANISMS**

Before starting experiments involving genetically modified organisms, such as bacterial cloning of PCR products, all workers must inform the Department Biological Safety Officer and the local Department Safety Officer, and notify the Department Biological Safety Sub-Committee in writing. All work must be carried out in accordance with the Genetically Modified Organisms (Contained Use) Regulations 2000.

Further guidelines are available from the University Safety Office:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/biological/gmo/>

#### **5.8.5. HUMAN MATERIALS**

Anyone wishing to work with human materials should provide a Code of Practice for the project to the Department Biological Safety Sub-committee for ratification before commencing work.

The Department of Archaeology & Anthropology complies with the [Human Tissue Act 2004](#) as regards research on and storage of relevant human samples. All workers **must** consult the Department Biological Safety Officer if it is possible that relevant samples may be within the remit of this act (generally any material that is less than 100 years old). Further information may be found here:

<http://www.safety.admin.cam.ac.uk/subjects/biologicals/human-tissue-act>

#### **5.8.6. ANIMAL MATERIALS**

Anyone wishing to work on animal materials should familiarise themselves with the relevant standard operating procedures. All workers should discuss their proposed project with the lab technician at the planning stage of any project, together with plans for importing or working with animal material from outside the UK in order to ensure relevant Licences and documentation are in place before the importation. Please refer to Section 4.2.1 for more information.

#### **5.8.7. PLANT MATERIALS**

Anyone wishing to work on plant materials should familiarise themselves with the relevant standard operating procedures. All workers should discuss their proposed project with the lab technician at the planning stage of any project, together with plans for importing or working with plant material from outside the UK in order to ensure relevant Licences and documentation are in place before the importation. For samples that are non-UK but not directly imported by the researcher (already in the

country), all workers should ensure that the correct standard operating procedures are followed, noting that EU and non-EU samples have different SOP's.

#### 5.8.8. SOILS & SEDIMENTS

A DEFRA licence must be obtained for Non-EU soil/sediment import. All Non-EU soils must be double bagged and clearly labelled with country of origin, site code, owner and date and kept in a sealed plastic box in the DEFRA store. When working with licensed material, the DEFRA guidance note and relevant lab standard operating procedures must be followed. Please see the Division of Archaeology Biological Safety officer for more information.

#### 5.8.9. SPILLAGES OF BIOLOGICAL MATERIALS

- **Human & animal material** - Use a solution of Chlorox at approx. 5% v/v for spills and 10% v/v for inactivation of contaminated medium - such material should be inactivated for at least 2 hours prior to disposal down sluice. Chlorox should be used with all unenveloped viruses and material derived from human specimens
- **For spillages involving most viruses and gram negative bacteria** - disinfect with a solution of Virkon at a concentration of approx. 2%
- **DEFRA non-EU soils** - Wipe down surfaces with Trigene advance spray, as recommended by DEFRA) and place used wiping cloth in DEFRA-labelled bin
- **Soils from Polio regions** – wipe up with solution of 0.5% bleach, and place cloth in DEFRA-labelled bin
- Surfaces must be disinfected with Virkon disinfectant (1% solution) following spillages.

Contact the relevant laboratory technician for further instruction. If the equipment or apparatus is contaminated by spillage, this must be decontaminated by the user before being sent for repair.

#### 5.8.10. OTHER GENERAL GUIDELINES

- **Transport** – samples must be transported safely and in accordance with legislation: <http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd057b/index.html>
- **Hazards signs** - Warning 'Biohazard' signs must be displayed and attached to samples etc.
- **Storage** - Microbial suspensions must always be kept in plugged or capped vessels.
- **Personal Protective Equipment** - This should be regularly cleaned, and lab coats regularly laundered.
- **Workspaces/benchtops** – disinfect at least annually with either Chlorox or Virkon solutions (as appropriate)

- **Safety cabinets** - Biological Safety Cabinets and laminar flow cabinets have limitations in their protection of the worker. All cabinets are checked for performance twice yearly. Always check with the Safety Officer that your cabinet is suitable for your work. Ensure the Safety Cabinet is working correctly before beginning work.
- **Disposal** - All biohazardous waste must be autoclaved or treated with a suitable sterilising agent before disposal. Autoclaves must be operated in accordance with the appropriate Standard Operating Procedure to ensure that sterilisation process has been carried out successfully.
- **Aerosols** – Workers should be aware of the potential of generating aerosols from solutions containing biohazard material. Aerosols containing infected particles may escape from shakers and homogenisers between the cap and the vessel as pressure builds up during the operation. All containers must be free from flaws; caps must be well-fitting and gaskets must be in good condition. The machine should be covered when in use and the cover disinfected after use. After shaking or homogenising, the containers should be opened in a suitable cabinet. Care must be taken when centrifuging to prevent contamination. If a centrifuge tube is damaged during a run the machine must be switched off and must not be opened for 30 minutes. The Lab Supervisor must be informed and will advise on the cleaning up procedure.
- **Spillage or breakage** - In the event of any spillage or breakage involving infectious material the Lab Supervisor must be informed at once. Follow the instructions for dealing with biological spillages given above.

## 5.9. OTHER LABORATORY TECHNIQUES

### 5.9.1. VACUUM TECHNIQUES

- Vacuum desiccators present a hazard from a possible implosion when evacuated. They must either be screened with a mesh containing or wrapped in cling film for as long as their contents are under a vacuum.
- Workers using vacuum lines must wear safety spectacles or goggles.
- All glass containers under vacuum e.g. on a freeze drier must either be screened from the operator or wrapped in cling film.

### 5.9.2. LIQUID NITROGEN

#### Potential Hazards

All liquefied gases are extremely cold and can cause burns. Very small amounts of liquid are converted to large amounts of gas. Excessive concentrations of oxygen are a fire hazard and excessive amounts of other atmospheric gases in the air reduce the concentration of oxygen and can cause asphyxiation.

Liquid nitrogen is often used as a coolant and explosions may be caused by the blockage of vents or tubes due to the formation of ice when moisture from the air is frozen.

#### Handling Liquid Nitrogen

- In addition to a laboratory coat always wear loose fitting leather gloves (with little or no cuff), a face shield or goggles and adequate footwear (not sandals, open-toed shoes or wellington boots).
- Always handle carefully and slowly to minimise boiling and splashing.
- Use tongs to withdraw objects immersed in the liquid.
- Always handle liquids in a well-ventilated area to prevent excessive concentration of gas.
- Never dispose of liquids in confined areas or places where others may enter.
- Only use containers specially designed for holding cryogenic liquids. Such containers can withstand the rapid changes and extreme differences in temperature which are encountered when working with such liquids.
- Use only the stopper supplied with the container.

### 5.9.3. COMPRESSED GASES

- Site gas cylinders away from working areas if possible.
- Know the cylinder contents and the properties of the gas.
- Handle cylinders carefully and transport them on a cylinder trolley.
- Fasten cylinders securely in use, transit and storage.
- **Never** secure a cylinder near a source of heat (and that includes leaving it in the sun!).
- Always use a regulator.
- Make sure the thread of the regulator and cylinder are free from grit before fitting. Never use oil or grease on the threads of a regulator.
- **Never** hammer at a regulator, or even over tighten it.
- Check for leaks by applying a little soapy water round the seal.
- Report immediately a cylinder which is leaking and remove it from the working area.
- Close valves when not in use and remove regulator in transit.

- Close valves on empty cylinders and mark 'empty'.
- Always keep acetylene cylinders and other liquefied gases in an upright position.
- Always remove cylinders from the working area when they are not required.

Please see: <http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd121c/index.html> and <http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd032c/hsd032c.pdf>

#### 5.9.4. GEL ELECTROPHORESIS

##### General

Some electrophoresis systems employ lethally high voltages and almost all are potentially hazardous since they employ aqueous buffer solutions at voltages high enough to be dangerous to the operator if accidental contact occurs. It is very important to use an adequately shielded apparatus, an appropriately grounded and regulated power supply and, most importantly, common sense when carrying out electrophoresis experiments.

##### Specific Hazards

There are several hazardous chemicals commonly used in electrophoresis experiments:-

- **Acrylamide** - is a neurotoxin. A mask must be worn when weighing it out to prevent inhalation. It is rapidly absorbed through the skin, therefore gloves must be worn whether working with the solid or a solution. Gels should be poured over a tray so that any spilled acrylamide does not spread over the bench. Acrylamide solutions should be polymerised before disposal.
- **Ethidium bromide** - is a powerful mutagen, therefore always wear gloves while handling gels or solutions containing the dye and rinse apparatus thoroughly after use.
- **Formamide** - is a powerful mutagen/teratogen. Therefore wear gloves and avoid skin contact.
- **Coomassie blue** - is a carcinogen, therefore wear gloves and avoid skin contact.
- **Dimethylsilane** - is harmful by inhalation and is extremely volatile and flammable. Always work with this in a fume cupboard.

#### 5.10. RADIATION

##### 5.10.1. IONISING RADIATION

All work within the department involving radiation generators must be carried out in accordance with University policy. Please see the University guidelines on "Working Safely with Radiation Generators" for more information:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd017r/index.html>

The Department's Radiation Protection Supervisor must be informed over plans for new work and/or equipment involving ionizing radiation.

Plans for new equipment are a matter requiring consultation with a Radiation Protection Advisor under the Ionising Radiations Regulations 1999. All proposals for purchase and use of new or upgraded radiation generating equipment must be discussed with the University Radiation Protection Advisors or the University Safety Office, in advance and before any equipment is put into use, in line with the University Radiation Management Policy document:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd007r/index.html>

### **5.10.2. ULTRAVIOLET RADIATION**

Eye and skin protection must be used when handling ultraviolet light sources since U.V. light is highly energetic and causes tissue damage even after short exposures. A laboratory coat and nitrile gloves must be worn and a full face protector should be in place when viewing ethidium bromide stained gels or when harvesting caesium preparations containing ethidium bromide stained DNA.

Germicidal UV lamps used inside microbiological safety cabinets are normally shielded by the walls of the cabinet. Nevertheless, laboratory coats and face masks should be used whenever these lights are switched on. In the ancient DNA lab these lamps are externally operated and entry is prohibited when in operation.

Ozone forms from the photochemical interaction of short wavelength ultraviolet radiation and oxygen in the air. A concentration higher than 0.1 ppm may cause smarting of the eyes and a feeling of discomfort in the nose and throat. At this concentration, ozone should be detectable by smell.

Hazards from ozone can be avoided by having adequate ventilation around the source.

Please see the University guidelines on working with artificial UV light for more information:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd113r/index.html>

Further guidance on biological application of artificial UV light can be found here:

<http://www.admin.cam.ac.uk/cam-only/offices/safety/publications/hsd114r/index.html>

### **5.10.3. RADIOISOTOPES**

Before commencing work with radioisotopes, all workers must discuss their proposed research with the Chair of the Department Safety Committee, the local Department Safety Officer and the Departmental Radiation Protection Supervisor, who will advise on the following specific points:

- The special precautions necessary to prevent personal and structural contamination and to minimise any radiation effects.
- Personal monitoring and health checks (medical examinations and blood counts).



- The disposal of radioactive waste.
- The purchase and storage of radioactive materials.
- Emergency procedures relevant to radioactive materials

All work to do with radioisotopes must be carried out in accordance with University policies on working with radiation and radioactive materials:

<http://www.admin.cam.ac.uk/offices/safety/publications/>

## **5.11. CONTINGENCY PLAN**

In the event of an equipment malfunction or any other issue that might lead to a laboratory safety problem, members of the Department of Archaeology & Anthropology should refer to this contingency plan, in conjunction with the Departmental Response Emergency Action Manual (DREAM) specific to the building where the problem has occurred. Copies of this contingency plan are to be found in the DREAM red boxes and next to each freezer.

DREAM red boxes are:

- West Building: by main door under the fire panel, key in fire box.
- Courtyard Building: by rear door under the fire panel.
- Pembroke St: near the fire panel by the main entrance.
- Fitzwilliam St: in reception area on the ground floor.

### **5.11.1. FOR PROBLEMS WITH ONGOING EXPERIMENTAL PROCEDURES AND PROTOCOLS**

STOP what you are doing, then follow Emergency shut-down procedures given on the Risk Assessment for the procedure.

### **5.11.2. IN THE EVENT OF A SERIOUS SPILL IN A LABORATORY**

#### **For a chemical spill**

Spillage Resource Kits are held in each Laboratory. Use a non-reactive material such as sand or vermiculite to absorb the liquid, which then can be neutralised if necessary before disposal. If the spilled liquid reacts with anything to give off fumes, cordon off the area or close the room and evacuate personnel if necessary. Contact the relevant laboratory technician for further instruction. If the equipment or apparatus is contaminated by spillage, this must be decontaminated by the user before being sent for repair.

#### **For a biological spill**

Use a solution of Chlorox at approx 5% v/v for spills and 10% v/v for inactivation of contaminated medium - such material should be inactivated for at least 2 hours prior to disposal down sluice.

Chlorox should be used with all unenveloped viruses and material derived from human specimens, e.g. blood, serum, human cells or tissues etc.

For spillages involving most viruses and gram negative bacteria, disinfect with a solution of Virkon at a concentration of approx 2%.

Surfaces must be disinfected with Virkon disinfectant (1% solution) following spillages.

### **5.11.3. ISSUES TO DO WITH FRIDGES AND FREEZERS**

#### **In the event of a power-cut:**

- Leave the fridges/freezers closed and unopened and still plugged in
- Assess the situation after 12hours
- If the power is still off, consider following the instructions given for malfunction below.

#### **In the event of a freezer malfunction**

- Initially, leave the freezer closed and unopened and still plugged in
- Assess the contents of the freezer from the contents list on the outside
- If the samples can be left to defrost without any risk to health and safety, and they will not suffer from a period of thawing, then leave in the freezer in the short-term
- If the samples must remain frozen to avoid risk to health and safety, and maintain viability, then make arrangements to transfer them to an alternative freezer elsewhere in the Department, using the emergency contact details given below
- On the next working day, make arrangements to mend the freezer.
- If any seepage or leakage of biological materials has occurred during the defrosting, follow the instructions above to deal with biological spills.

To allow for contingency storage, all freezers should be filled to a maximum of  $\frac{3}{4}$  capacity.

Contact details for lab technicians are to be found next to each freezer in the Department.

## 6. APPENDIX I

### Department of Archaeology & Anthropology - Safety Officers

At today's date (8<sup>th</sup> Oct 2015) the following responsibilities are held:

Head of Department of Archaeology & Anthropology	Professor Martin Jones
Head of Division of Archaeology	Dr Marie-Louise Stig Sørensen
Head of Division of Biological Anthropology	<i>tbc</i>
Head of Division of Social Anthropology	Dr James Laidlaw
Director of the McDonald Institute of Archaeological Research	Professor Cyprian Broodbank
Director of the Museum of Archaeology and Anthropology	Professor Nicholas Thomas
Director of the Cambridge Archaeological Unit	Mr Christopher Evans
Assistant Registry	Jane Fisher Hunt
Haddon Librarian	Mr Aidan Baker
Departmental Safety Officer	Dr Philip Nigst
Departmental Biological Safety Officer	Dr Andrew Clarke
Departmental Radiation Protection Supervisor	Ms Catherine Kneale
Departmental HTA Person Designated	Dr Sue Hakenbeck (until 31/12/2015)
	Dr Toomas Kivisild (from 1/1/2016)
Faculty IT Manager	Mr Kevin Bradley
Department Safety Officer (Division of Archaeology & McDonald Institute)	Mrs Jessica Rippengal
Divisional Biological Safety Officer and Safety Officer (Division of Archaeology & McDonald Institute)	Ms Catherine Kneale
Department Safety Officer (Division of Social Anthropology)	Mrs Eva Rybicki
Divisional Biological Safety Officer and Safety Officer (Division of Biological Anthropology – Pembroke St)	Mrs Jo Osborn
Divisional Biological Safety Officer and Safety Officer (Division of Biological Anthropology – Fitzwilliam Street)	Mrs M Bellatti
<b>Buildings</b>	
Archaeology	Fire Safety Managers and First Aiders are appointed for each building. A list is available in the Department Office.
Haddon Library	
Museum of Archaeology and Anthropology	
West Building	
Courtyard Building	
Pembroke Street (Old Metallurgy Building)	
Henry Wellcome Building, Fitzwilliam Street	
Cambridge Archaeological Unit	
<b>Laboratory Directors</b>	
Charles McBurney Lab for Geoarchaeology	Professor Charles French
Grahame Clark Lab for Zooarchaeology	Dr Preston Miracle

George Pitt Rivers Lab for Archaeobotany	Professor Martin Jones
Dorothy Garrod Isotope Laboratory	Dr Tamsin O'Connell
Glynn Daniel Lab for Genetics	Professor Martin Jones
Duckworth Collection	Dr Marta Mirazon Lahr
Henry Wellcome Genetics Labs	Dr Toomas Kivisild
Henry Wellcome Palaeoanthropology Labs	Dr Marta Mirazon Lahr
Pembroke St Human Biology Lab	Dr Toomas Kivisild
Pembroke St Genetics Labs	Dr Toomas Kivisild
Pembroke St 3D imaging Lab	Dr Jay Stock

**FIRE WARDENS**

Fire Wardens are responsible for checking that their designated area is completely evacuated before leaving the building and then reporting to the Department Fire Officer at the assembly point.

## 7. APPENDIX II

### **Rules for handling Modern HUMAN and ANIMAL Samples (Including blood, blood products, bone, other tissues, urine, faeces)**

The following precautions must be taken when samples not requiring Containment Level 3 are handled.

For all samples:

1. Eating, chewing drinking, smoking, applying cosmetics, storing of food and outdoor clothing in the laboratory is banned
2. Mouth pipetting must not be used under any circumstances
3. All workers in the laboratory must cover cuts and abrasions with a waterproof dressing.
4. Wash hands regularly and always before leaving the laboratory.
5. Laboratory coats must be worn at all times whilst in the laboratory and removed before leaving.
6. Gloves must be worn at all times when handling samples and be removed before leaving the laboratory. Single use gloves must not be reused. Multi use gloves must regularly be checked for integrity. In the event of gloves becoming damaged or grossly contaminated, the gloves must be discarded hands washed, and new gloves put on.
7. Eye protection (goggles or safety glasses) and a plastic apron should be worn if the work activity is likely to cause splashing.
8. Materials must be handled only at clearly identified, designated work stations.
9. Samples must be centrifuged in sealed safety buckets.
10. Pipettes and other disposable lab equipment should preferably be of plastic.
11. All specimen containers, glassware and used equipment must be immersed in Virkon disinfectant (1% solution) before cleaning and disposal.
10. The use of sharps is banned unless there is no alternative. If sharps are used then they must be placed directly in the sharps bins for disposal. When full, sharps bins must be taken to the University Safety Office on a Friday morning (by 9 am) for disposal. See the lab technician for a replacement sharps bin.
11. Surfaces must be disinfected with Chlorox disinfectant (5% solution) following spillages. At the end of every day, and on completion of the work, the work station (bench top) and all equipment must be disinfected.

12. Those working on modern human and animal samples that potentially contain dangerous pathogens (including blood, blood products, urine, faeces) must be registered with the University's Occupational Health Service, as necessary.

13. Accidents:

(i) in the event of an accident resulting in a wound, immediately encourage it to bleed, wash thoroughly with soap and water but DO NOT SCRUB, cover with a waterproof dressing.

(ii) In the event of a contamination of skin, conjunctivae or mucous membranes, immediately wash thoroughly.

(iii) Accidents must be reported to the lab technician and to a Departmental Safety Officer, to be recorded on a Dept accident report form.

#### Sample storage

1. Samples must be stored in fridge or freezer as appropriate.
2. Samples must be labelled with the sample type, date of sampling, name of worker.
3. Samples kept in freezer must have secondary containment (large plastic bag/box) also labelled with sample type, date of sampling, name of worker.

#### Disposal of Samples

1. Urine: Excess samples must be transferred to urine waste container, then Virkon disinfectant powder added (2g per 100ml of urine). This solution must be left to stand overnight, then the solution poured down the sink, and flushed with excess water.

2. Blood: Excess samples must be transferred to blood waste container, then Virkon disinfectant powder added (2g per 100ml of blood). This solution must be left to stand overnight, then the solution poured down the sink, and flushed with excess water.

3. Blood products (solid or residue), bone waste, animal faeces:

Excess sample must be transferred to a small plastic universal container, sealed in a plastic bag, and placed in a sharps bin for disposal by incineration by the Safety Office. When full, inform Catherine Kneale who will store it ready for disposal. See Catherine Kneale for a replacement sharps bin.

4. Sharps When full, inform the lab technician who will store it ready for disposal. See the lab technician for a replacement sharps bin.

5. Disposable equipment (plastic pipettes etc)

After use, equipment must be submerged in Virkon disinfectant (1% solution) overnight, then drained and placed in lab waste.

## 8. APPENDIX III

### Checklist for the management of health and safety in the Department

#### 8.1. PERIODIC RISK ASSESSMENTS AND INSPECTIONS

Alternative exit routes	Monthly	
First aid box/signage of box	Quarterly	
Fire fighting equipment	Every 6 weeks	
Evacuation drill	Annually	
VDUs/workstations	For all new members of staff, then every 3 or 4 years, or if workstation relocated or substantially reorganised.	
Departmental risk assessment and inspection	Annually	
Electrical safety	Ongoing	Visual checks by users following guidelines in the Safety Manuals
	Annually	Formal visual inspection by appointed person of other earthed equipment, eg kettles
	Annually	Formal visual inspection by appointed person of extension cables, leads (for mains voltage equipment)
	Every 2 years	Formal visual inspection by appointed person of desktop computers, VDU screens, photocopiers, fax machines, double insulated equipment whether hand held or not hand held.
		Inspection by competent person of earthed equipment such as electric kettles. Also extension cabled, leads (for mains voltage equipment)
Every 4 years	Inspection by competent person of any equipment/appliance which is not double insulated	

#### 8.2. ANNUAL REVIEW OF SAFETY PROCEDURES

- An annual review of safety procedures will be held at a Health & Safety Committee meeting annually. Related matters will be raised at interim Health and Safety meetings and/or at the Departmental meetings, as most timely and relevant. The purpose of this meeting will be to receive annual inspection reports as follows:
  - Safety inspection of all Departmental buildings (incorporating VDU and

risk assessments)

- Fire safety inspection
  - Periodic inspection of electrical and mechanical portable equipment
  - First Aid issue/replenishment of first aid box
  - Accidents/incidents and any remedial action taken
  - Visual display unit risk assessment
- To confirm names of staff with specific Health and Safety roles in the coming year.
  - To review Health and Safety training needs for existing members of staff.
  - To review Health and Safety induction information and training needs for new members of staff.
  - To identify specific objectives re. Health and Safety issues raised by staff/students/visitors.
  - To review arrangements for fire safety for disabled students/staff.
  - To record matters of general concern for referral to the University Health and Safety Office.
  - To review the allocation of resources to deal with Health and Safety issues.
  - To review notification to staff, students and visitors of the Departmental Health and Safety Policy and report of the Annual Review meeting.
  - To review and amend where necessary the Departmental Health and Safety Policy Statement and to record amendments on the pro forma in the Health and Safety Policy Statement.
  - To deal with any other business.
  - To arrange date of next meeting.