



Code of Practice Safe management of lone working

version 1.0



REVISION LOG

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INTRODUCTION

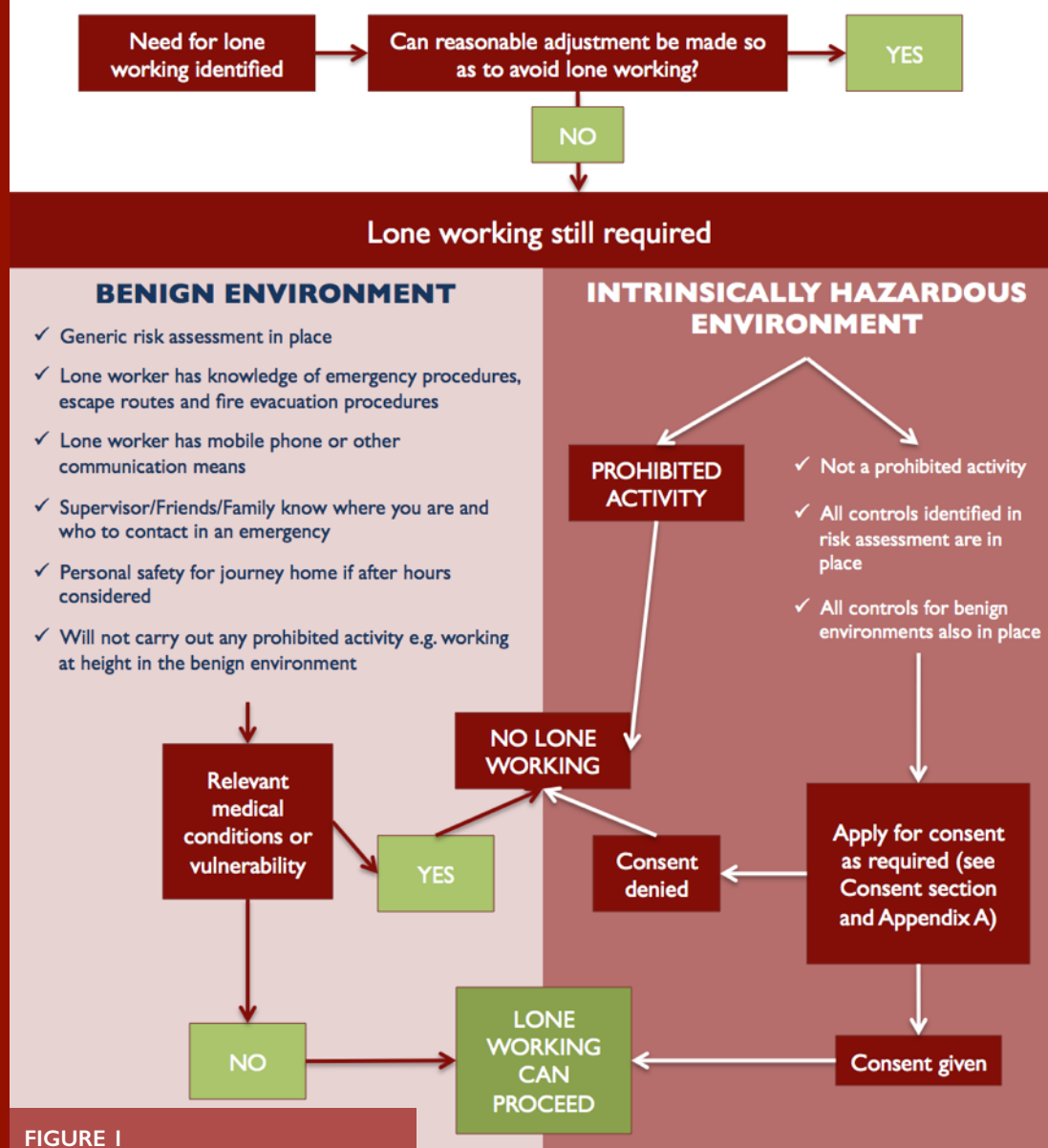
INTRODUCTION

1. The College recognises that staff and students occasionally need to work alone and has a responsibility to assess risks to lone workers and to take steps to avoid or control these risks.
2. Compliance with the College Lone Working [Policy](#) is mandatory and this Code of Practice (CoP) is a supporting document that must be used to assist in achieving the objectives outlined within the policy. It must be noted that this CoP does in some respects only describe a minimum compliance standard for safe lone working and Faculties are free to raise these standards within their own areas. In all cases, Imperial College must strive for best practice when controlling lone work.
3. The main thrust of this CoP is to consider how lone working can best be safely managed in laboratory, workshop and office type environments on College premises. Circumstances where lone working relates to more specialised situations such as off-site working or working in spaces shared with other organisations are referenced but not considered in detail since further information exists elsewhere.

SUMMARY OF REQUIREMENTS

SUMMARY OF COLLEGE LONE WORKING PROCEDURES

4. The procedures and requirements for lone working, as detailed within this CoP are summarised within Figure 1.



DEFINITIONS

DEFINITIONS

Lone Working

5. Lone working is where a person is by themselves in the workplace without close or direct supervision or contact with others. For example:
 - Where only one person is working in an area and there is no one to provide help with the task or immediate assistance in the event of an emergency.
 - Workers working by themselves away from their fixed base. This may involve working elsewhere in the College or off site.

Building Access Hours

6. Building access hours define the period where staff and students are permitted access to a particular building. This is controlled by the electronic access control system. The building access hours are unrelated to any safety considerations and it is common for access hours to vary between different buildings and campuses. The origins behind having a defined period during the night where a building should not be occupied rests primarily in discouraging staff and students from spending all night in a building - with the attendant risk of people sleeping on the premises in workplace buildings that are not defined as residential.

Out of hours working

7. The precise hours at which work is considered 'out-of-hours' are defined differently across the College's Faculties and Departments. This College Lone Working Code of Practice (CoP) does not make distinction between lone working in 'normal working hours' and that carried out 'out-of-hours' however it is essential that the time at which lone working will take place must be considered within the activity risk assessment and the risks and controls available will differ depending on the time of day.

WHEN LONE WORKING TAKES PLACE MUST ALWAYS BE CONSIDERED WITHIN THE RISK ASSESSMENT

Core Services

8. Core services are medical assistance, Occupational Health provision, Fire Office services, Estates Facilities and Security services. Certain arrangements for these will vary between campuses and will differ depending on the time of day. On the medical campuses, there is also a reliance on services provided by site partners rather than the College.

Intrinsically Hazardous Environment

9. An environment where significant and complex hazards exist. Examples would typically include laboratories and workshops.

Benign Environment

10. An environment where the function of the area, or the work activities undertaken within, either present insignificant risks to the lone worker, or risks that are easily managed. Examples would typically include offices, libraries and computer labs.

Prohibited activities

11. Any activity where lone working is prohibited by law or by College, Faculty or Departmental policy.

Buddy System

12. A buddy system is defined as the practice of pairing two or more people together to provide safety assistance and an appropriate and effective response in the event of an accident or emergency.
13. A lone working buddy must, where the risk assessment identifies the need;
 - be physically close enough to the lone worker so as to be able to respond quickly.
 - have access to all areas in which the lone worker will be working
 - have sufficient knowledge of the process being undertaken and must be able to provide assistance in the event of an emergency

RESPONSIBILITIES

14. In all cases, the buddy must have the means by which to maintain contact with, and regularly check on, the lone worker. The buddy must also always understand what it is that they are expected to do in the event of an emergency.

Emergency Response Procedure (ERP)

15. A College document to assist those attending to an incident in an Access Controlled Area. The document includes details of the hazards within the area and contact details for those responsible. This [document](#) must be displayed within the vicinity for all Amber and Red Access Controlled Areas.

RESPONSIBILITIES

Line Managers

16. Line Managers are responsible for:

- Ensuring that staff, students and contractors are made aware that lone working should be avoided where reasonably practical, and that certain lone working activities are prohibited at the College.
- Ensuring that lone working is justified.
- Ensuring that the implications for lone working are considered in the risk assessment for the activity or area.
- Developing and implementing their own procedures for the management of lone working.
- Where relevant, granting or refusing consent for lone working to take place.
- Ensuring that any additional control measures specifically identified within the risk assessment as a condition of lone working are implemented, validated and monitored.
- Ensuring that lone working buddies carry out their duties
- Establishing an emergency response procedure where appropriate (see section below on Emergencies) and ensuring that these are known and understood.
- Ensuring that the lone worker is competent in the work technique, use of control measures and is conversant with emergency procedures.

The Lone Worker

17. The lone worker is responsible for:

- Ensuring that alternatives to lone working have been considered.
- Ensuring that, where required, consent has been obtained before lone working is undertaken.
- Informing his or her manager / supervisor or safety officer if they have a health condition, are taking medication or have a disability that may increase risk from lone working. Guidance on when disclosure may be appropriate may be found on the Occupational Health website.
- Ensuring that the identified control measures are followed in practice.
- Ensuring that they understand the emergency response procedures.
- Informing the manager or supervisor who is responsible for providing consent immediately if there are any problems or changes to agreed arrangements.
- Keeping within the scope of the agreed work and work areas.

The Lone Working buddy

18. Any person acting as a lone working buddy must;

- Ensure that they fulfil the expectations placed upon them as lone working buddies.
- Be confident that they could respond to any reasonably expected emergency.
- Ensure that they understand the activities being undertaken by the lone worker.
- Check on the lone worker at the agreed intervals.
- Remain contactable at all times whilst acting as a buddy.
- Ensure that they check that the lone worker has completed their task and has left the area

by the agreed time.

- Ensure that they have access to the area in which the lone worker will be located.

Security Department

19. Security arrangements (building access periods, core provision of security and first aid services, and Security contact telephone numbers) may vary between campuses and buildings. The Head of Security is responsible for:

- Providing up-to-date information on local security arrangements to Heads of Departments and Building Managers.
- Working with Heads of Department/ Division to control access to their Departments/ Divisions, both during and outside normal working hours.
- Providing security response and general first aid requirements
- Defining the role of Security staff with regard to emergency response procedures.
- Informing Heads of Department of instances of non-compliance with building access periods.

Building Managers

20. Building Managers are responsible for:

- Ensuring building occupiers are informed of building-related issues which might increase the risk to those who work alone or outside of normal working hours. This could include for example planned works to local exhaust ventilation such as fume cupboards or safety cabinets.

RISK ASSESSMENT

RISK ASSESSMENT

21. [College policy](#) reflects the legal requirement for risk assessments to be in place for all activities or areas. The extent and detail of the risk assessment required will vary depending on the risks associated with the activity; the risk assessment for working in a benign environment, such as an office, will by nature be less rigorous than that required for work in an intrinsically hazardous environment, such as in a cryogenics storage facility, for example.

22. The prospect of lone working should nevertheless be considered at the outset of planning any work activity and the conclusion recorded within the risk assessment. For example, the College templates for biological agents, chemicals and off-site working contain sections for recording whether lone working is permissible and whether any additional controls are required. Lone working risk assessments may also be written as stand-alone documents, though this option obviously has the potential to create additional paperwork.

**ACTIVITY RISK ASSESSMENTS
MUST ALWAYS CONSIDER
WHETHER OR NOT THERE
ARE OVERT RISKS TO THE
LONE WORKER**

23. As commonly described in HSE guidance, the main factors to consider when risk assessing lone working are:

- Does the workplace present a special risk to the lone worker?
- Is there a safe way in and out for one person? This is unlikely to be relevant to laboratories and offices but may be a consideration for specialised maintenance tasks or working in places that are infrequently accessed.
- Can equipment be safely handled by one person?
- Can machinery and goods be safely handled by one person? This will be particularly pertinent to workshops and storerooms.
- Will hazardous substances be used that will pose a risk to the lone worker? The quantity and the way the substance is handled should be considered in addition to the intrinsic hazard presented by the substances.
- When will the lone working take place and what core services will be available so as to provide support in the event of an emergency?
- Does the work involve lifting objects too large for one person to handle? This will apply to general manual handling issues anywhere.

- Is more than one person needed to operate essential controls for the safe running of equipment or workplace transport? Some operations are two person jobs and there is no escaping the fact.
- Is there a risk of violence? Not a major consideration in most College circumstances but may be an issue when working off site or returning home having left work during hours of darkness.
- Are young, pregnant or disabled workers particularly at risk if they work alone? Occupational Health are able to advise on pregnancy issues and anyone with a disability or medical condition will need special consideration before being permitted to work alone.
- Are there any other reasons why the individual (for example a trainee) may be more vulnerable than others? Training and competence is mentioned below.
- If the lone worker's first language is not English, are suitable arrangements in place to ensure clear communication, especially in an emergency? This is a point that could easily be overlooked or underestimated.
- Will the lone work be carried out in a secure or isolated area where it is difficult to be able to assist a lone worker in the event of an emergency?

24. There are three possible outcomes from the risk assessment process:

- Lone working is forbidden. Either it cannot be justified, or the likelihood of mishap is unacceptably high and / or the consequences of mishap so significant, that the activity cannot be satisfactorily managed. Lone working is prohibited for a number of activities at College level – these largely reflect those activities prohibited by law. Otherwise, the decision must be made by those undertaking and reviewing the risk assessment. The list of those activities for which lone working is prohibited can be found in Appendix A. An indicative list of activities for which particular consideration to lone working must be given, and the key issues involved for each, is provided in Appendix B.
- Lone working is acceptable with amended procedures and suitable controls. The outcome must be recorded in the risk assessment or SoP and is essential to lone working being permitted in intrinsically hazardous environments. Formal consent may be required and where this is the case, a record of this consent must be kept.
- Lone working is acceptable without any enhanced controls. This may be the case in benign environments where a simple set of generic precautions apply and specific consent to lone work is not considered mandatory.

LONE WORKING CONTROLS FOR INTRINSICALLY HAZARDOUS ENVIRONMENTS

25. The following generic points must be considered when identifying controls for lone working in hazardous environments.

Modification of the task

26. With a bit of thought and planning, it may be possible to modify the task so as to reduce the risk to a lone worker e.g. by omitting a hazardous step in the procedure or carrying it out in advance earlier in the day when others are around to assist.

Buddying systems

27. As described in the definitions section. Buddying systems are commonly applied in many areas including in the College's high containment microbiological facilities.

CCTV and webcams

28. These represent relatively simple and commonly used engineered controls for lone working. A number of College facilities are already fitted with webcams. Options include the siting of screens immediately outside the area to enable the occupants to be seen without entering or an arrangement where a buddy sits in an office with an image of the room displayed in the corner of their computer. The limitations are that there will be a delay between the monitoring person realising that there is a problem and attending the scene i.e. the fact that there is no alarm means that someone has to actually watch the screen. The buddy must also be able to gain access to the location of the lone worker or have a prearranged plan to initiate some sort

of action.

Man-down alarms

29. There are a multitude of products that are commercially available. The simplest type only alarm locally and respond to changes in physical position. Other more sophisticated versions send a signal to a manned base station. Where used, it is essential that the response to an alarm sounding is developed and that this is communicated with all those that could be involved.

Mobile phones and radios

30. Most staff and students possess a mobile phone, either personal or provided by the College. A signal should be obtainable in most parts of College premises, though there are areas where this is not the case. Nevertheless, they form the simplest means of communication (other than shouting for help) and it is prudent to carry them at all times, where permitted. There have been cases of staff being trapped in lavatories when door handles have malfunctioned and they have not been able to raise the alarm in the absence of having a mobile to hand. Note that there are certain areas within the College in which the carrying of a mobile phone is not permitted. Such restrictions must always be complied with and alternatives used.

Administrative controls

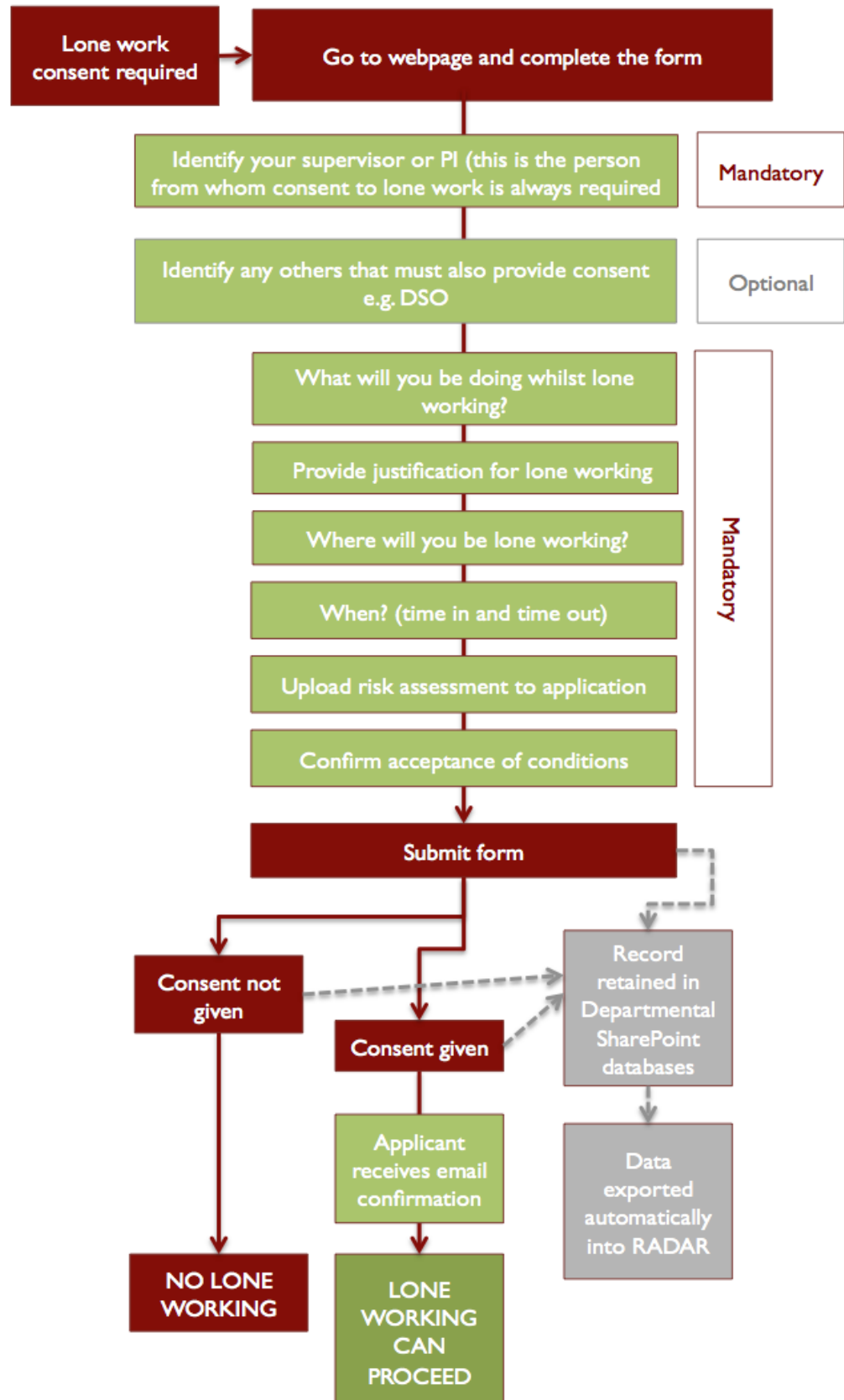
31. By working to a documented protocol, obtaining consent and defining the time period in which you expect to be present on site demonstrates that the process is being managed. An additional degree of control can be applied if this includes an instruction for the lone worker to confirm when they have completed the task or left site – the implication being, that if they do not make contact at the time they are expected to finish, then a response can be initiated.

CONTROLS FOR BENIGN ENVIRONMENTS

32. Common precautions will include:
- Ensuring that the Principal Investigator or Supervisor knows that lone working takes place and that the lone worker understands the precautions described here.
 - Ensuring that the lone worker knows that they must inform their PI or supervisor, or Occupational Health, if they suffer any medical condition or vulnerability that puts them especially at risk. If they do disclose any such condition, then specific consent will be required.
 - Ensuring that the lone worker knows the emergency contact numbers for their building / campus, the escape routes from the building, assembly points etc. These represent the things that all staff should know for normal working arrangements.
 - Carrying a mobile phone at all times, except where their use is prohibited. Also be aware that mobile phone reception across all areas of the College Estate is not guaranteed, especially in basements and tunnels. If a mobile phone cannot be used, then the lone worker must ensure that they have access to landline phone, radio or have another means of 2 way communication.
 - Ensuring that family and friends know your contact numbers and whereabouts in the College you work. This may well save them having to trace you via some central contact point such as College Security, or at the medical school campuses, through the Trust Security, should they need to do so.
 - Considering personal safety with regard to the journey to and from home. This may involve arriving or leaving work alone during hours of darkness or travelling by public transport late at night.
 - Not working at height, attempting to lift anything that is clearly beyond the ability of one person or carrying out any other activity prohibited for lone workers.
33. Those working in such environments must always still comply with the permitted building access hours for the building that they work in. Those requiring access out of normal building hours, whether for lone working or not, will need to apply specifically for this. This building access consent is given only in exceptional circumstances and by the person or group in charge of the area.

CONSENT REQUIREMENTS**Benign Environments****FIGURE 2**

SUMMARY OF PROCEDURES TO BE FOLLOWED WHEN USING THE COLLEGE LONE WORKING CONSENT SYSTEM



**CONSENT
REQUIREMENTS**

34. Low risk environments such as offices can be subject to a generic (rather than specific) risk assessment and set of precautions. The tasks undertaken in such areas usually present low or easily manageable risks. For this reason, consent requirements for lone working in benign environments is determined at Faculty or local level.

Intrinsically hazardous environments

35. Consent for lone working even during normal working hours should be recorded. Thresholds for requiring and recording consent can be decided at Faculty level, but in all cases must be identified within the risk assessment. In all cases, competency and training records must take account of the ability of the worker to lone work.

36. A College-wide form is [available](#) and the process for submitting a request is as follows (see also Figure 2):

**THE REQUIREMENT FOR
RECORDING CONSENT TO
LONE WORK MUST BE
IDENTIFIED WITHIN THE RISK
ASSESSMENT**

- The person wishing to undertake lone working completes the online form. The form identifies the risk assessment / protocol for the activity that the person wishes to undertake, the location, the time period and the person responsible for granting consent.
- The form is submitted to the person identified as being responsible for granting consent (usually the supervisor or line manager).
- The responsible person receives an email request they then have the option of accepting or refusing the request.
- If accepted then the lone working activity can proceed as long as all the agreed controls are implemented

**PROHIBITED
ACTIVITIES****LONE WORKING PROHIBITED ACTIVITIES**

37. Activities for which lone working is prohibited are defined in Appendix A. There can be no lone working for any of these activities at any time.

EMERGENCIES**EMERGENCIES**

38. Emergency procedures are a standard element of all risk assessments and should therefore already be in place for the activity. The obvious consideration where lone working is concerned is the possible absence of assistance in the event of something going wrong – including the provision of core services such as medical support. The lone working aspect of the assessment therefore needs to consider the likelihood of such support being required and how it is going to be provided. Expectations must be realistic. It is a reasonable expectation that Security or a hospital 'Crash Team' on the medical campuses will be able to provide medical support. However, they must be:

- Available for service.
- Able to be summoned.
- Able to access the area where the casualty is without putting themselves in danger.

39. It is not a reasonable expectation to assume that Security will deal with a chemical or biological spillage. They will not – it is not within their remit. This remains the responsibility of the persons working with the substances and who have the knowledge of what they are dealing with. Depending upon the extent of the spill, if necessary, Security will assist with isolating the area, warning others and liaising with the emergency services. This is the limit of their responsibilities.

40. Under the College Access Control Scheme, it is a requirement that areas that have been designated as 'amber' or 'red' must have a written emergency response procedure (ERP) documented in a standard format and that this information is readily available to Security. Further information can be found on the Safety Department [Access Control](#) web pages.

TRAINING AND COMPETENCE

41. Training and competence of staff and students must be a consideration for working under normal circumstances and this subject will not be expanded upon here. It simply increases in importance when the worker is expected to work alone. Therefore, in making the decision to grant consent for lone working to take place, the experience, maturity and level of training that

**TRAINING AND
COMPETENCE**

SHARED SPACES

sa person has received must be factored into the process in addition to the task and location for the work.

LONE WORKING IN SHARED SPACES

42. Where the College shares premises with site partners, lone working shall be considered as part of the arrangements between the institutions, and this information must be consulted with respect to whichever site it concerns. As with other safety issues, much will depend upon which site partner is deemed to be in control of the space where the lone working is being carried out.

OFF-SITE LONE WORKING**OFF-SITE LONE WORKING**

43. Lone working off-site is a specialised subject and depending upon the situation, can present very serious risks for the lone worker particularly where fieldwork is concerned. Where College staff undertake lone working on the premises of another institution, then the policies of the host institution will normally apply, however the College will require reassurance that risks are being managed. Off-site working is addressed elsewhere and further information can be found on the Safety Department [off-site working](#) pages.

HOME WORKING**HOME WORKING**

44. Home working may result in a lone working situation except that it is an environment familiar to the worker, and should only involve office work.
45. If staff are permitted to work from home, the supervisor should ensure that there are no health issues and that they are trained to recognise and correct any matters relating to ergonomics and display screen equipment. The workstation [self-assessment](#) approach that is adopted on College premises works equally well when applied to home workstations. It is not necessary for the supervisor to visit the home of the worker - only that the worker is instructed to raise any issues that might concern them.
46. Home working is a relatively modern phenomenon and is a concept that has become accepted by many employers and can be seen as beneficial to both parties. It is probably reasonable to assume that most College home workers elect to work from home with the agreement of their manager i.e. it is their own preference and choice rather than being an obligation under their contract of employment. If any employees are contracted to undertake work at home, then the obligation on the employer with regard to ensuring their employees health and safety becomes greater. It will be necessary to have firmer arrangements in place for establishing work targets, establishing contact arrangements and dealing with any feelings of isolation that may manifest. It may also be necessary to agree the source of funding should physical improvements need to be made to the workstation and this burden may well fall upon the employer.

INSURANCE**INSURANCE**

47. Under the Employers' Liability (Compulsory Insurance) Act 1969 (ELCI), the College are required by law to insure their employees against workplace injury or disease. Thus College employees are insured to undertake the tasks associated with their job. Any specific questions concerning insurance should be addressed to the College Insurance Manager.

APPENDIX A - ACTIVITIES FOR WHICH LONE WORKING IS PROHIBITED

The following table describes those activities for which ANY lone working is prohibited at Imperial College.

ACTIVITY	LONE WORKING POLICY	REFERENCES
Cryogenics		
All working with liquid nitrogen in Type 1 liquid nitrogen facilities	Prohibited - at least two people must be present in the room when liquid nitrogen is being handled or automatic fills are underway.	CoP: Storage, Use & Transportation of Liquid Nitrogen on College Premises: http://www3.imperial.ac.uk/safety/subjects/gasesandcryo
Lone work in type 2 liquid nitrogen facilities is prohibited unless it can be shown by risk assessment that it is safe to do so	Prohibited unless, for example, the pressurised vessel is located in such a large room that oxygen levels could not be significantly affected even in the event of a total releases	
Filling of equipment, e.g. magnets in Type 4 liquid nitrogen facilities	Prohibited - at least two people must be present in the room when the magnets are being filled.	
Work at height		
Using ladders as a means of access	Prohibited if a ladder exceeds 1.5m and cannot be secured without a second person 'footing'	Work at Height Regulations & College guidance on safe use of ladders: http://www3.imperial.ac.uk/safety/subjects/laddersafety
Workshop machinery		
Use of dangerous machinery where there is a risk of entanglement, entrapment, crushing, impact, or injury from cutting or shearing, stabbing or puncture. Where lone working is prohibited must be identified in the risk assessment for the use of the machinery in question.	Prohibited as assistance must be available at all times.	
Working on or near live electrical conductors		
Electrical work involving manipulation of live, uninsulated power conductors at ~240 volts using insulated tools.	Prohibited - at least two persons must be present	Electricity at Work Regulations: http://www.hse.gov.uk/electricity/index.htm
Other work on, or near, bare live conductors where a person working on their own would not be capable of undertaking the work safely without assistance in, for example, keeping other persons from the work area.		
Confined spaces		
Confined spaces defined by the Confined Spaces Regulations	Prohibited - precautions as required with the Confined Spaces Regulations and College requirements must be implemented	Confined Spaces Regulations

APPENDIX B - GUIDANCE ON EXAMPLES OF ACTIVITIES FOR WHICH LONE WORKING CAN PRESENT ADDITIONAL RISKS

The following table lists examples of activities for which restrictions and additional controls can, dependent on circumstances, be required.

Note 1: the table provides guidance for the healthy worker only and does not take account of any medical vulnerabilities or conditions that would render them at greater risk when lone working. For example, those with a pre-existing acute allergy to a substance they will be working with may be assessed as not being able to lone work at any time. It is essential therefore that the individual risk assessments for all hazardous activities does take account not only of the risks to the healthy lone worker but also to any particular additional risks that may be presented to those with certain medical conditions, such as acute allergy.

Note 2: this table does not list every activity for which lone working precautions may be required. Other activities must also be identified by risk assessment as requiring the application of additional restrictions and controls measures.

ACTIVITY	LONE WORKING PRECAUTIONS	REFERENCES
Biological		
Working at CL3	The need for lone working is always considered within the Code of Practice for each individual CL3. Where lone working is prohibited, this is clearly stated, where lone working is permitted then the precautions and procedures to be followed are clearly described. The buddy system implemented will always require that the buddy is on site (usually within the same building), is authorised and trained for access into the CL3 lab and is capable of responding in the event of an emergency. Means (e.g. cameras, lone working alarms) by which the buddy can actively check on the lone worker should be provided and the frequency at which the buddy actively checks on their lone worker agreed. Where security are involved in the response (e.g. where lone working alarms repeat back to Security then it is essential that the protocols are agreed with Security and that adequate training is provided. In no case shall Security staff enter a CL3 alone in order to effect a rescue. It will be for the buddy to meet Security at an agreed location outside of the lab or suite	Safety Department Biological Safety web pages: http://www3.imperial.ac.uk/safety/subjects/biosafety
Working at CL 2	Lone working at CL2 must be considered within the activity covering the work in hand. The precautions required should be proportional to the risks associated with that activity and must take account of all aspects, e.g working with asphyxiant gases in a CL2 lab presents different to the lone worker than tissue culture	
Working in CBS facilities	Lone working in CBS presents particular risks, not in that the worker is not more likely to come to harm within CBS, but that should there be an emergency then CBS facilities are generally remote and secluded, and always secure with restricted access. It is possible therefore that an incapacitated lone worker could remain undiscovered within an animal facility for an extremely long time. Mobile phones are prohibited from CBS thereby immediately limiting how help could be summoned should the need arise. In addition, should the alarm be successfully raised, then those that can respond is limited to those who have access to these facilities. Lone working risk assessments for these areas must consider these factors and implement an adequate buddy system depending on what the lone worker is doing within CBS and when that is happening. Consent to lone work must be recorded.	
Cryogenics		
Working in Type 1 and Type 2 liquid nitrogen facilities (but not undertaking filling activities)	Simply being present in a room where liquid nitrogen vessels are located should not present an unacceptable risk to the lone worker as long as the room is well ventilated and the worker is not actually undertaking any work with liquid nitrogen. Workers must be aware of the signs of an imminent automatic fill, an uncontrolled release from a PRV or bursting disk and the meaning of any oxygen alarms that may begin sounding - and be able to take appropriate measures.	CoP: Storage, Use & Transportation of Liquid Nitrogen on College Premises: http://www3.imperial.ac.uk/safety/subjects/gasesandcryo
Working with liquid nitrogen in Type 3 facilities	Non-pressurised Dewars are normally limited in capacity (typically around 25L in an 'onion' Dewar). However, the likelihood of dropping one is significantly increased if one person is trying to lift it to fill a storage vessel. It would therefore normally be considered to be a two person activity. If an 'onion' Dewar was dropped, the shape would probably dictate that only a proportion of the contents would come out (unless it ruptured).	

ACTIVITY	LONE WORKING PRECAUTIONS	REFERENCES
Working with liquid nitrogen in Type 4 facilities without filling a magnet with cryogen	In the absence of any filling process being carried out, the risks presented are minimal and the lone worker would not normally be at increased risk. Occupants of the room must be able to recognise the signs of a quench and also the sounding of oxygen alarms and be able to act accordingly in line with local SoPs. If the facility is physically remote and isolated, this should be factored in with regard to any precautions that need to be in place.	
Compressed gases		
Moving gas cylinders	Working alone is permitted as long as due consideration has been given to manual handling	CoP: Storage, Use & Transportation of Liquid Nitrogen on College Premises: http://www3.imperial.ac.uk/safety/subjects/gasesandcryo
Changing pressure regulators	The person needs to have been trained in the changing of pressure regulators. The person needs to understand the consequences of changing a regulator that is already connected to an item of equipment and whether or not there is more than one item of equipment running off the same regulator. Risk assessment will usually identify that changing regulators on pyrophoric, flammable and toxic gases is not a lone working activity	
Operating rigs that utilise pyrophoric, flammable or toxic gases	Risk assessment will usually identify that any work with these gases is not an activity that should be carried out without at least two trained and competent individuals present	
Hazardous chemicals		
Toxic substances	The risks associated to lone working whilst handling toxic substances will depend on the nature of the toxic substance in use. Those that can act quickly would normally demand the presence of more than one worker whilst those that give rise to long term or cumulative effects can be considered in the same way as carcinogens	
Carcinogens & substances with reproductive toxicity	These substances usually give rise to long term effects and therefore present no acute risk to the lone worker	
Corrosive substances	The key factor to consider when risk assessing lone work with corrosive substances is the quantity and method of use. If sufficient quantities of corrosives are to be used in a manner in which it is possible to have an incapacitating exposure then lone work must be avoided	
Flammable substances (other than flammable gases)	Lone work with flammable substances must be rigorously assessed so as to take account of the nature of the substance, quantity and method of use and whether or not the lone worker is more likely to accidentally start a fire or be at greater risk should one start.	
Skin or eye irritants / sensitisers	These are not usually considered serious hazards that are likely to overtly compromise the lone worker. If the worker is however know to have a pre-existing acute sensitivity to a chemical in use then lone working may need to be restricted.	
Respiratory sensitisers	Certain respiratory sensitisers are known to have the potential to rapidly incapacitate those exposed and therefore lone working with any respiratory sensitiser must be carefully assessed. If the worker is known to have a pre-existing acute sensitivity to a substance in use then lone working may need to be restricted	

Lone working

First issued 2014

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imperial.ac.uk/safety