

Hazard guidance for new and expectant employee risk assessment

V1 April 2022, Issued by Occupational Health Service (OHWorks Ltd)

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Introduction

This guidance provides information on the hazards associated with work at Queen Mary University of London that may be relevant to a new or expectant employee, with recommended actions that can help to mitigate the risk involved.

The management of Health and Safety Regulations 1999 require employers to carry out suitable and sufficient risk assessments which take into consideration new and expectant employees. As the risk may increase when an individual is newly expectant, expectant or breast/chest feeding, then existing risk assessments must be reviewed and subject to additional consideration (also to include risks to the child / children or the child / children of an employee who is still breast/chest feeding, not just the individual themselves). The Health and Safety Executive have produced a guide for employers HSG122 (2002) that highlights specific topics requiring consideration which can be found at <https://www.hse.gov.uk/mothers/>.

This hazard guidance is also applicable to students and other workers with a Queen Mary employment contract (see <https://hr.qmul.ac.uk/procedures/contracts/>) to ensure health & safety risks are identified and managed effectively by Queen Mary. The term 'employee' used in the context of this guidance will include the above noted categories.

This guidance would not be suitable for contractors to Queen Mary or self-employed persons as it is not written in the context of non-Queen Mary work activities.

Purpose

This guidance provides a hazard check list that can be used to identify specific hazards for an individual to help with the risk assessment. The checklist outlines a large variety of hazards from working with display screen equipment to more specialised work, for example working with reproductive toxicity chemicals. The checklist should be used to produce a risk assessment by the line manager/supervisor to include relevant sections applicable to the individuals work or study. However, it is important for you and your child's health and safety protection that you inform your line manager/supervisor with written notification as early as possible. A specific risk assessment can then be undertaken.

Queen Mary provides a specific risk assessment template for new and expectant employees at <https://hr.qmul.ac.uk/procedures/leave/maternity/> which also details the process for

managers/supervisors and when / where to seek further advice.

The outcome of the risk assessment may indicate that adjustments in work activities will need to be made to reduce or remove the hazard for the period of the pregnancy and breast/chest feeding. Where this is not possible for operational or research reasons the individual should be referred to Occupational Health for further advice as it is likely alternative duties will need to be found.

Substances and organisms with reproductive toxicity: embryotoxicity and teratogens

Some hazardous substances and organisms (biological agents) are well known as being able to cause damage to the unborn child and can be embryo-toxic (notably in the early stages of pregnancy). Chemical substances of such risk are classified with specific hazard statement and code/s - these and the hazardous organisms are outlined in the checklist in Appendix 1.

Pregnant individuals, or those attempting to become pregnant, should not work with these substances or organisms.

There is some evidence that certain chemical substances also commonly found in laboratories may be embryotoxic – even though they have not been assigned a reproductive toxicity classification. It appears that these substances can affect a pregnancy but are much less potent than the classified substances. Normal good laboratory practice is regarded as sufficient protection against embryotoxic effects of these substances which typically have other hazardous properties and protection measures which are required under the Control of Substances Hazardous to Health Regulations, 2002.

A teratogen is defined as any agent that can disturb the development of an embryo or foetus. Teratogens may cause a birth defect in the child. A teratogen may halt the pregnancy outright. The main types of teratogens include radiation, maternal infections, certain chemicals and drugs.

References

HSE (1999). Management of Health and Safety at Work Regulations 1999, Approved Code of Practice and Guidance L21. HSE Books. ISBN: 0717624889 (access at <https://www.hse.gov.uk/simple-health-safety/risk/index.htm>)

HSE (2002). New and expectant mothers at work – A guide for employers, HSG122 (access at <https://www.hse.gov.uk/mothers/>)

HSE (2003). A guide for new and expectant mothers who work, INDG373, now in web page format (access at <https://www.hse.gov.uk/mothers/>)

With thanks to the University of Bristol Health and Safety Office 'New and expectant mothers at work' guidance document.

Appendix 1. Hazard checklist for new and expectant employees

A. Physical risks

Where these are regarded as agents that have potential to cause foetal lesions and or likely to disrupt placental attachment.

No.	Hazard	Risks	Suggested actions
1	Movements and postures	<p>Standing: Continuous standing during the working day may lead to dizziness, fainting, and fatigue. It can also contribute to an increased risk of premature childbirth and miscarriage.</p> <p>Sitting: Pregnancy-specific changes pose a relatively high risk of thrombosis, or embolism, particularly with constant sitting. In the later stages of pregnancy, The pregnant individual is more likely to experience backache, which can be intensified by remaining in one position for a long period of time.</p> <p>Confined space: Difficulties in working in tightly fitting workspaces or workstations</p> <p>During the later stages of pregnancy can lead to strain or sprain injury, also with impaired dexterity, agility, coordination, speed of movement, reach and balance. Also associated with increased risk of accidents.</p>	<p>Control work hours, volume and pacing of work. Adjust how work is organised to give better ergonomic layout or change type of work if necessary.</p> <p>Ensure seating is available where appropriate and take longer or more frequent rest breaks to avoid or reduce fatigue.</p> <p>Adjusting workstations or work procedures can minimise postural problems and risk of accidents.</p>
2	Manual Handling of loads where there is a foreseeable risk of injury	<p>Hormonal changes in pregnancy can affect the ligaments increasing susceptibility.</p> <p>To injury; postural problems may increase as the pregnancy progresses.</p> <p>Possible risks to those who have recently given birth – e.g., likely to be temporary limitation on lifting and handling capability after a Caesarean section.</p>	<p>It might be possible to alter the nature of the task undertaken to reduce the risk of injury for all workers involved.</p> <p>Or it might be necessary to reduce the amount of manual handling (or use aids to reduce the risks) for the pregnant individual.</p>

3	Shocks and vibrations	Regular exposure to shocks, low frequency vibration (e.g. driving or riding in off-road vehicles) or excessive movement may increase the risk of miscarriage. (No particular risk to nursing workers)	Avoid work likely to involve uncomfortable whole-body vibration, especially at low frequencies or where the abdomen is exposed to shocks or jolts
4	Noise	Prolonged exposure to loud noise may lead to increased blood pressure and tiredness	Conform to action values and protective measures required under the Noise at Work Regulations (consult with the Health & Safety Directorate on details)
5	Radiation (ionising)	<p>Significant exposure can harm the foetus (either through external exposure or by breathing in/ingesting radioactive contamination) and there are limits on the dose deemed to be acceptable for expectant mothers.</p> <p>Nursing workers who handle radioactive liquids or dusts can cause exposure to the child, particularly through contamination of the parent's skin.</p>	<p>Work procedures should be designed to keep exposure below the statutory dose limit for those who are pregnant. A specific risk assessment is required. Nursing workers should not handle radioactive sources where the risk of contamination is likely.</p> <p>Consult local RPS in the first instance and for further details see http://www.hsd.qmul.ac.uk/a-z/radiation-ionising/</p>
6	Non-ionising radiation sources (optical, electromagnetic frequency)	Exposure above recognised exposure limit values could harm the foetus and cause developmental adverse effects. The pregnant individual can also suffer adverse health effects or injury (e.g. to skin, organs, eye).	<p>Work procedures should be designed to keep exposure below recognised exposure limit values.</p> <p>See http://www.hsd.qmul.ac.uk/a-z/radiation-non-ionising-and-electromagnetic-fields/</p>
7	Diving (and compressed air environments)	Pregnant workers are advised not to dive at all during pregnancy due to the possible effects of exposure to a hyperbaric environment on the unborn child. There is no evidence to suggest that breastfeeding and diving are incompatible.	Pregnancy is viewed as a medical reason not to dive. The diving regulations include the provision that if a diver knows of any medical reason why they should not dive, they should disclose it to the dive supervisor and/or refrain from diving.

B. Biological agents

No.	Hazard	Risks	Suggested actions
1	Any biological agent of ACDP Hazard Groups 2, 3 and 4 but in particular:- <i>Brucella</i> spp. <i>Chlamydia (psittaci / trachomatis)</i> . <i>Listeria monocytogenes</i> . <i>Mycobacterium tuberculosis</i> (TB). <i>Treponema pallidum</i> (syphilis). <i>Toxoplasma gondii</i> . <i>Cytomegalovirus</i> . Herpes simplex virus. Hepatitis virus B, C. HIV. <i>Paramyxoviridae</i> (mumps / measles). <i>Parvovirus</i> . <i>Rubella</i> .	Following infection with these agents there is potential for abortion or physical and neurological damage to the unborn child. For most workers, the risk of infection is not higher at work than from elsewhere, but in certain occupations exposure to infections is more likely, for example laboratory work, health care, looking after animals (farms and laboratories) or dealing with animal products (e.g. meat processing). Also, elevated risks if in contact with sewage and contaminated water (at the University or on field trips).	Specific COSHH biosafety risk assessment/s required followed by strict adherence to control measures. These control measures may include physical containment, hygiene measures, and immunised (vaccination) if exposure justifies this. If there is a known high risk of exposure to a highly infectious agent, then it will be appropriate for the pregnant worker to avoid exposure altogether. If vaccination is used it is essential that the subsequent immune response is assessed prior to potential exposure to the infectious agent.

C. Hazardous Substances

No.	Hazard	Risks	Suggested actions
1	Carcinogens, mutagens and reproductive toxicity. H350, H340, H350I, H360, H361, H362	H350: May cause cancer H340: May cause Cancer H350i: May cause cancer through inhalation H360: May damage fertility or the unborn child H361: Suspected of damaging fertility or unborn child H362: May cause harm to breast/chest fed children	COSHH assessment for the worker to be reviewed. Prevention of exposure is the top priority. Substitution of harmful agents if possible; if not then control by combination of technical measures, Good Laboratory Practice, and the use of Personal Protective Equipment (the latter only as a last resort and in combination with the other control measures). The worker may have to be assigned other duties away from the source of potential exposure for the duration of the pregnancy and nursing period.
2	Embryotoxic chemicals	Some chemicals commonly found in laboratories can be embryotoxic, especially in the very early stages of pregnancy. The potency of these chemicals is much less than those labelled	Normal good laboratory practice and any other measures identified in the COSHH assessment should be followed.

		with specific hazard statements in (1).	
3	Antimitotic (cytotoxic) drugs. May be encountered in health treatment Processes or in research	In the long term these drugs can cause damage to genetic information in sperm and eggs. Some can cause cancer. Absorption is by inhalation or through the skin. Those who are trying to conceive a child or are pregnant or breastfeeding should be fully informed of the reproductive hazard.	There is no known threshold limit and exposure must be reduced to as low a level as is reasonably practicable. Assessment of the risk should look particularly at preparation of the drug for use (pharmacists, nurses), administration of the drug and disposal of waste (chemical and human). These drugs are covered by COSHH, and there is an HSE guidance note MISC 615 Safe handling of Cytotoxic Drugs. http://www.hse.gov.uk/pubns/misc615.pdf
4	Chemical Agents that are known to be dangerous and may be absorbed through the skin This includes some pesticides	The risks will depend on the way in which the substance is being used as well as on its hazardous properties. Absorption through the skin can result from localised contamination – e.g. a splash on skin or clothing, or in certain cases from exposure to high atmospheric concentrations of vapour.	Avoid using such chemicals, if possible, but if use is essential; follow the guidelines, take special precautions to avoid skin contact and ensure methods of use and personal protective equipment is suitable. Covered by COSHH and the Control of Pesticides Regulations 1986 (COPR).
5	Carbon monoxide (CO)	Produced when fuels are combusted as a source of power or heat. Risks arise when engines or appliances are operated in enclosed areas. CO is odourless and toxic at low levels. Pregnant workers may have heightened susceptibility to the effects of exposure to CO. Carbon monoxide readily crosses the placenta and can result in the unborn child being starved of oxygen. There is no indication that breast/chest fed babies suffer adverse effects from their parents' exposure to CO.	The best preventative measure is to eliminate the hazard by changing processes or equipment. If this is not possible control by combination of technical measures, and good working practices, and the use of personal protective equipment (the latter only as a last resort and in combination with the other control measures). Avoid chronic exposure - even occasional exposure to CO could potentially be harmful.
6	Lead and lead derivatives	Wide range of toxic effects during pregnancy and	The exposure of pregnant and breast/chest feeding workers to lead is specifically

		impairment of the child after birth	prohibited by law if the exposure might jeopardise safety or health. Once pregnancy is confirmed, those pregnant should be suspended from any work which exposes them significantly to lead.
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D. Working Conditions

No.	Hazard	Risks	Suggested actions
1	Nauseating Smells	Can exacerbate morning sickness.	Remove source of smell, control by local exhaust ventilation or alter working patterns as necessary
2	Facilities (including rest rooms)	<p>Resting facilities: Rest is important for those pregnant and newly expectant. Tiredness increases during and after pregnancy and may be exacerbated by work-related factors. The need for rest is both physical and mental. Hygiene facilities: Without easy access to toilets (and associated hygiene facilities) at work, due to distance, work processes or systems, etc, there may be increased risks to health and safety, including significant risks of infection and kidney disease.</p> <p>Because of pressure on the bladder and other changes associated with pregnancy, those pregnant and newly expectant often have use toilet facilities more frequently and more urgently than others. Those breast/chest feeding may also need to do so because of increased fluid intake to promote breast milk production.</p>	<p>The need for physical rest may require that those pregnant and newly expectant have access to somewhere where they can sit or lie down comfortably in privacy, and without disturbance, at appropriate intervals. This is to enable both those pregnant and newly expectant / nursing to rest. Schools, Institutes and Directorates need to provide suitable facilities where ability to breast/chest feed if they wish to do so.</p> <p>It is not suitable to provide toilets for this purpose. Expressed milk may not be stored in any fridges that are used to store any scientific or high-risk material. Access to clean drinking water should also be available. Protective measures include adapting rules governing working practices.</p> <p>For example, in continuous processing and team working situations, and appropriate measures to enable those expectant and nursing to leave their workstation/activity at short notice more frequently than normal, or otherwise (if this is not possible) making temporary adjustments to working conditions as specified in the Management of Health and Safety at Work Regulations.</p>
3	Mental and physical fatigue and working hours	Long working hours, shift work and night work can have a significant effect on	It may be necessary to adjust working hours temporarily, as well as other working conditions, including the timing

		<p>the health of those pregnant and newly expectant, and on breast/chest feeding. Not everyone is affected in the same way, and the associated risks vary with the type of work undertaken, the working conditions and the individual concerned.</p> <p>This applies especially to health care. Generally, however, both mental and physical fatigue increases during pregnancy and in the postnatal period due to the various physiological and other changes taking place. Because they suffer from increasing tiredness, some pregnant and breast/chest feeding may not be able to work irregular or late shifts or night work, or overtime.</p> <p>Working time arrangements (including provisions for rest breaks, their frequency and timing) may affect the health of those pregnant and their unborn child, recovery after childbirth, or ability to breast/chest feed, and may increase the risks of stress and stress related ill health.</p> <p>Due to changes in blood pressure which may occur during and after pregnancy and childbirth, normal patterns of breaks from work may not be adequate for those pregnant and newly expectant.</p>	<p>and frequency of rest breaks, and to change shift patterns and duration to avoid risks. Regarding night work, alternative day work should be organised for those pregnant on receipt of a medical certificate from their doctor/midwife who states that night work is affecting their health and safety or of the unborn child.</p>
4	Occupational stress (including postnatal depression)	Stress is associated in some studies with increased incidence of miscarriage and pregnancy loss, and	Account to be taken of known organisational stress factors (such as shift patterns, job insecurity, workloads, etc) and the particular medical and

		also with impaired ability to breastfeed. Stress also can contribute to anxiety and depression.	psychosocial factors affecting those pregnant and newly expectant. Protective measures may include adjustments to working conditions or hours, and ensuring that the necessary understanding, support and recognition is available on return to work, while their privacy is also respected.
5	Temperature: Extremes of cold or heat	<p>Prolonged exposure of pregnant workers to hot environments should be kept to a minimum, as there is a greater risk of the worker suffering from heat stress. Working in extreme cold may be a hazard for those pregnant and their unborn child / children.</p> <p>Warm clothing should be provided. The risks are particularly increased if there are sudden changes in temperature. Breast/chest feeding may be impaired by heat dehydration.</p>	Adequate rest and refreshment breaks should be provided alongside unrestricted access to drinking water. Those pregnant and newly expectant should note that thirst is not an early indicator of heat stress. They should drink water before they get thirsty, preferably in small and frequent volumes.
6	Working with display screen equipment (DSE)	<p>Postural / ergonomic problems due to changes in body proportions.</p> <p>Circulation problems due to extended periods of sitting.</p>	<p>Review DSE assessment and make appropriate changes to work patterns and workstation equipment.</p> <p>See http://www.hsd.qmul.ac.uk/a-z/dse_eye-care/ for further details.</p>
7	Working alone	Those pregnant are more likely to need urgent medical attention if an incident were to occur.	<p>Depending on their medical condition, access to communications with others may need to be reviewed and revised and levels of (remote) supervision involved, to ensure that help and support is available when required, and that emergency procedures (if needed) consider the needs of those pregnant and newly expectant.</p> <p>See http://www.hsd.qmul.ac.uk/a-z/lone-working/ for further details.</p>
8	Work at heights	It is hazardous for those pregnant to work at heights, for example onto ladders, platforms.	Avoid working at height. A risk assessment should consider any additional risks due to work at height where this is justified, risk must be effectively zero.
9	Encountering violence / aggressive behaviour	If an employee is exposed to the risk of violence at work during pregnancy, when they have recently given	<p>Measures to reduce the risk of violence include:</p> <ul style="list-style-type: none"> • Providing adequate training and information for staff, including

		<p>birth or while they are breast/chest feeding this may be harmful. It can lead to detachment of the placenta, miscarriage, premature delivery and underweight birth, and it may affect the ability to breastfeed. This risk could particularly affect those in direct contact with the public and visitors.</p>	<p>practice drills for emergency situations.</p> <ul style="list-style-type: none"> • Improving the design or layout of the workplace. • Have robust communication devices and emergency procedures • Changing the design of the job - e.g., avoiding lone working, reducing use of cash, maintaining contact with those away from work base. • If the risk of violence cannot be significantly reduced, those pregnant or newly expectant should be offered suitable alternative work.
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