ROYAL HOLLOWAY, UNIVERSITY OF LONDON

POTENTIAL RISKS TO NEW AND EXPECTANT MOTHERS AND THEIR EFFECTIVE MANAGEMENT

PHYSICAL AGENTS		
Agent	**Details of risks**	**Measures to manage the risk effectively**
Manual handling of loads (including lifting, carrying, pushing and pulling).	Hormonal changes in expectant mothers can affect ligaments, increasing susceptibility to injury. Postural problems may increase as pregnancy develops. Those who have recently given birth will have temporary limitations on their lifting and handling capabilities.	Where possible, manual handling activities for new and expectant mothers should be avoided. Where manual handling cannot be avoided, the risk assessment should look at measures such as:- ▪ decreasing the weight of loads; ▪ reducing the amount of physical effort required; ▪ ensuring sufficient working space; and ▪ providing assistance, mechanical aids.
Electromagnetic fields and waves.	Extreme over-exposure to radio-frequency radiation could cause harm by raising body temperature.	Exposure to electromagnetic fields must not exceed the restrictions on human exposure, set by the Health Protection Agency.
Ionising radiation	Significant amounts of radioactive contamination may be transferred via the placenta to the unborn child. Also, radiation from radioactive substances taken into the mother's body may irradiate the unborn child through the wall of the womb. Radioactive material may pass into the milk of a breastfeeding mother, presenting a radiation hazard to the feeding child. Exposure of the child may also occur through contamination of the mother's skin.	Limits are in place for external radiation dose to the abdomen of women: ▪ 13mSv in any three months; and ▪ 10mSv during the declared term of pregnancy. Work procedures must be designed to keep exposure of expectant and breastfeeding mothers as low as reasonably practicable. Female workers exposed to ionising radiation need to declare their pregnancy and whether breastfeeding as soon as possible. Radiation risk assessment must consider the risks to new and expectant mothers. If further advice or assistance is required contact Departmental

		Radiation Protection Supervisor or College Radiation Protection Officer.
Shocks and vibration	Regular exposure to shocks, low frequency vibration (e.g. riding in off-road vehicles) or excessive movement may increase the risk of miscarriage. Long-term exposure to whole-body vibration may increase risk of prematurity or low birth weight.	Expectant mothers and those who have recently given birth should avoid work likely to involve uncomfortable whole body vibrations, especially at low frequency, or where the abdomen is exposed to shocks or jolts.
Movement and posture	Risks resulting from movements and postures during and after pregnancy will depend on a number of factors, including: ▪ nature, duration and frequency of tasks/movements; ▪ pace, intensity and variety of work; ▪ patterns of working time and rest breaks; ▪ ergonomic factors and general working environment; and ▪ suitability and adaptability of any work equipment involved. Continuous standing may lead to fatigue, dizziness and faintness. It can also contribute to an increased risk of premature childbirth and miscarriage. Constant sitting and pregnancy specific changes pose a potential risk of thrombosis and blood clotting. Expectant mothers are more likely to suffer backache, which can be intensified by remaining in the same posture for a long period of time. Workspaces and workstations that do not adjust to take account of increased abdominal size may impair dexterity, agility, co-ordination, speed of movement and balance may be impaired by pregnancy, increasing the risk of accidents. There may also be risks if a mother is returning to work after childbirth with medical complications.	Postural problems can be removed by adjusting workstations and work routines. Opportunity to alternate between standing and sitting must be available. To reduce fatigue, longer and more frequent rest break opportunities must be made available.

HAZARDOUS SUBSTANCES		
Agent	**Details of risks**	**Measures to manage the risk effectively**
Substances that carry risk phrases: R39 – danger of very serious irreversible effects R40 - limited evidence of a carcinogenic effect; R45 - may cause cancer; R46 – may cause heritable genetic damage; R49 – may cause cancer by inhalation; R61 – may cause harm to the unborn child; R63 – possible risk of harm to unborn child; R64 – may cause harm to breastfed babies; R68 – possible risk of irreversible effects.	The actual risks to health from these substances can only be determined by risk assessments, as required by the Control of Substances Hazardous to Health Regulations (COSHH). Although substances may have the potential to cause ill-health the risk may be low in practice, e.g. if exposure is below the assigned level which may cause harm.	COSHH requires work with hazardous substances to be subject to a specific risk assessment (see College Control of Substances Hazardous to Health Policy and Procedure document). COSHH assessments must, therefore, assess the risks to expectant and new mothers. Exposure must be below any assigned limits, as given within the material safety data sheet supplied with the substance or document 'EH40: Workplace Exposure Limits'. The hierarchy of risk control measures is: ▪ elimination of exposure; ▪ control of exposure by technical measures (e.g. local exhaust ventilation); and ▪ provision and use of personal protective equipment and clothing (as a last resort). Underpinning any risk management measures is the provision of information, instruction and training to new and expectant mothers. Female workers working with hazardous substances need to declare their pregnancy and whether breastfeeding as soon as possible.
Hazardous substances that can be absorbed though the skin	Certain substances can penetrate intact skin and become absorbed into the body causing ill-health effects. The risks will be dependant on the way the substance is being used as well as its hazardous properties.	Such substances are marked 'Sk' under 'EH40: Workplace Exposure Limits'. Work with such substances must be subject to specific risk assessment, as required by COSHH Regulations (see College Control of Substances Hazardous to Health Policy and Procedure document). The hierarchy of risk management measures for exposure to hazardous substances must be applied (see above).

HAZARDOUS SUBSTANCES (continued)		
Agent	**Details of risks**	**Measures to manage the risk effectively**
Mercury and mercury derivatives	Exposure to organic mercury compounds during pregnancy can slow the growth of the unborn child, disrupt the nervous system and poison the mother. Organic mercury can be transferred from the mother's blood into her breast milk if she is highly exposed before and during pregnancy.	The principles of COSHH must be applied (see above and College Control of Substances Hazardous to Health Policy and Procedure document).
Lead and lead derivatives	Uncontrolled exposure to lead has been associated with abortions, miscarriages, stillbirths and infertility. Exposure to lead before or after birth, via the mother or during early childhood, can impair the development of the child's nervous system. Lead can be transferred from the mother's blood into her breast milk if she is highly exposed before and during pregnancy.	Maximum permissible blood levels are set for men, and women of reproductive capacity. The level for women of reproductive capacity is lower to ensure that should they become pregnant they have low blood levels and to protect the foetus from injury in the weeks before pregnancy is confirmed. Those who work with lead to such a degree defined by the Control of Lead at Work Regulations are subject to medical surveillance. Once pregnancy is confirmed, women subject to medical surveillance will normally be suspended from work that exposes them significantly to lead. Exposure of breastfeeding mothers to lead must be reduced to the lowest practicable levels.
Carbon monoxide	Readily crosses the placenta and can result in the unborn child being starved of oxygen. The level and duration of maternal exposure are important factors.	The principles of COSHH must be applied (see above and College Control of Substances Hazardous to Health Policy and Procedure document).
Antimitotic / cytotoxic (cell destroying) drugs	In the long term these drugs cause damage to the genetic information in sperm and eggs.	The principles of COSHH must be applied (see above and College Control of Substances Hazardous to Health Policy and Procedure document). Employees of childbearing age must be fully informed of the reproductive hazard.

BIOLOGICAL AGENTS		
Agent	**Details of risks**	**Measures to manage the risk effectively**
Any biological agent of hazard group 2, 3 or 4	Many biological agents within these hazard groups can affect the unborn child if the mother is infected during pregnancy. These may be transmitted through the placenta whilst the child is in the womb, or during or after birth (e.g. through breastfeeding or close physical contact between mother and child). Examples of agents include hepatitis B, HIV, chickenpox and TB. Rubella and toxoplasma can harm the unborn child, as can cytomegalovirus and chlamydia in sheep. There are other biological agents known to cause abortion, or physical or neurological damage. For most workers the risk of infection is not greater than that from living in the community. But in certain occupations (e.g. laboratory workers, health care, working or dealing with animals) exposure to infections is more likely.	The principles of COSHH apply. Risk assessment will take account of the nature of the biological agent, how infection is spread, how likely contact is and what control measures are, or need to be, in place. These control measures will include physical containment, hygiene measures and the use of available vaccination if exposure justifies this. If there is a known exposure to a highly infectious agent then It will be appropriate for the expectant mother to avoid exposure altogether.
WORKING CONDITIONS		
Working Condition	**Details of risks**	**Measures to manage the risks effectively**
Facilities	Tiredness increases during and after pregnancy and may be exacerbated by work-related factors. Pressure on the bladder and other pregnancy-related changes means expectant mothers often have to go to the toilet more frequently and urgently than others. Without easy access there may be increased risks (e.g. infection and kidney disease). Breastfeeding mothers may also need access to such facilities because of increased fluid intake to promote breast milk production.	New and expectant mothers must have access to facilities to enable rest (sit or lie down comfortably, in privacy and without disturbance). Drinking water should also be available. Work routines and locations must ensure that expectant and breastfeeding mothers are able to promptly use toilet facilities.
Mental and physical fatigue	Mental and physical fatigue increases during pregnancy and postnatal periods. Long working hours, shift work, night work and insufficient rest breaks can have a significant effect on the health of new, expectant and breastfeeding mothers.	It may be necessary to temporarily adjust working hours and conditions, including the frequency and duration of rest breaks. Where such adjustments are necessary these must be agreed with the line manager. Advice and assistance can be obtained from the Personnel Department and/or Health & Safety

		Adviser. Alternative day work must be organised where an expectant mother produces a medical certificate from her GP/midwife stating that night work is affecting her or her unborn child's health.
Work-related stress	Stress is associated with increased incidence of miscarriage and impaired ability to breastfeed. Stress can also lead to anxiety and depression. New mothers may develop postnatal depression, women may have recently suffered miscarriage, etc. and expectant mothers may be anxious about their pregnancy that could make them more vulnerable to workplace 'stressors'. New and expectant mothers are particularly vulnerable to stress for various reasons: ▪ hormonal, physiological and psychological, sometimes rapidly, during and after pregnancy. ▪ financial, emotional and job insecurity. ▪ difficulty in establishing a work/life balance, especially with long, unsociable hours and new family commitments.	Risk assessments must take account of organisational 'stressors' (e.g. work demands, work hours, organisational change) and the potential effect on new and expectant mothers. It may be necessary to adjust working conditions and hours, and ensure individuals have opportunity to raise concerns of work-related stress and that these are appropriately dealt with. Further advice and assistance can be obtained from the Personnel Department and/or Health & Safety Adviser.
Passive smoking	Passive smoking and cigarette smoke can affect the health of the expectant mother.	The College has in place a policy that prohibits smoking throughout its premises (see College Smoking Policy).
Extremes of cold and heat	There is a greater risk of expectant mothers suffering heat stress through prolonged exposure to hot environments. Breastfeeding may be impaired by heat dehydration. Extreme cold may be a hazard to the expectant mother and their unborn child. Risks are particularly increased if there are sudden changes in temperature.	Adequate rest and refreshments breaks must be provided along with access to drinking water. New and expectant mothers must be aware that thirst is not an early indicator of heat stress. Drinking water should be taken in small frequent volumes. Where working in extreme cold is unavoidable, warm clothing must provided and in accordance with the findings of the risk assessment.
Lone Working	Expectant mothers are more likely to need urgent medical attention.	Lone working must be considered as part of the risk assessment process. Dependant on their medical condition, work location and type of work activity, the assessment may

		determine expectant mothers are prohibited from certain types of lone working or access to communication devices for raising an alarm and specific safe working procedures are necessary.
Working at height	Expectant mothers can experience impaired balance which may be hazardous if working from ladders, platforms, etc.	Risk assessment must consider whether there are any additional risks from expectant mothers working at height.
Violence and aggression	Exposure to aggressive behaviour or perceived threat of aggression or violence can lead to work-related stress. Physical violence can result in severe injury to both expectant mother and unborn child.	Work activities must be risk assessed to determine the level of risk from potentially confrontational situations. Measures that can reduce the likelihood of violent or aggressive behaviour include: ▪ providing information, instruction and training; ▪ changing the design or layout of workplaces; ▪ redesigning the job (e.g. avoiding lone working, regular contact when away from usual work base).
Personal protective equipment and clothing	Physiological changes during and after pregnancy may make some existing protective equipment not only uncomfortable but also unsafe for use (e.g. protective equipment does not fit properly or comfortably).	The hierarchy of risk management measures identifies personal protective equipment and clothing as a last resort. Where the management of a specific risk is reasonably practicable only by use of personal protective equipment and clothing, this must be subject to assessment to determine effective alternatives (i.e. alternative sizes and comfortable to wear). Where these are not available, working must not be permitted.
Inappropriate nutrition	Appetite and digestion may be affected during and after pregnancy. Inappropriate timing, frequency and duration of meal breaks can affect the health of the new, expectant or breastfeeding mother, and the unborn or breastfed child. Expectant mothers' eating patterns and preferences may change (e.g. only able to tolerate food 'little and often' rather than in larger quantities at 'normal' mealtimes).	Adequate and appropriate nutrition, including drinking at regular intervals is essential to the health of new, expectant and breastfeeding mothers, and their unborn or breastfed children. Individual needs and providing access to these can be established through discussion with their line manager.

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