Guidance for staff and students on the occupational health aspects of pregnancy

Introduction
The purpose of this document is to highlight some of the major known hazards to new and expectant mothers that may arise from their work and to indicate sources where additional information about the measures that might be adopted to minimise the risks can be found. The information within it is aimed at both staff and students. More detailed information is available within a Health and Safety Executive guidance document entitled “New and expectant mothers at work” (HSG122). The full text of this is available via the online safety information system provided within the University.

At present, the law requires employers such as the University to assess the risks to all employees that arise from their work and to do all that is reasonably practicable to avoid or control those risks. More specifically, the Management of Health and Safety at Work Regulations 1999 require that special attention is given to identifying and controlling risks that may affect women who are pregnant, who have recently given birth or who are breastfeeding. Although this legislation applies only to employees, the University also aims to protect students from exposure to such risks and consideration should also be given to work they may need to do as part of their studies.

As well as potential hazards that may be encountered at work, there are other activities that may be harmful before, during and immediately after pregnancy but which are not normally an inherent part of one’s employment. Smoking and alcohol consumption are two well known examples. Such activities can be potentially very damaging but are outwith the scope of this booklet. Guidance on the effects of such “lifestyle related activities” can be obtained through NHS healthcare routes.

Action required
Heads of all management units must ensure that activities carried out within their area of control that may pose a significant risk to women of child bearing age are identified and that action is taken to minimise the potential for harm from these activities where appropriate. Information should be provided to staff about the arrangements within the unit for control of these risks. The existence of this guidance document should be drawn to the attention of those to whom it may be relevant.

When a member of staff has provided notice that they are pregnant or breastfeeding, a specific individual assessment must be made of the work of carried out by that person to ensure that they are not put at risk during and immediately after their pregnancy. Particular attention should be paid to the actual tasks that they have to perform during their work to ensure that any risks...
associated with these are adequately controlled. This assessment should be regarded as an ongoing process throughout the course of the pregnancy as the capabilities of the person involved may be significantly reduced as the pregnancy progresses. (e.g. manual handling) The nature of the tasks they are required to do should be temporarily modified accordingly.

The following sections give guidance on some of the major issues which either cause concern to women or have the potential to present a significant risk. A form that may be used to assist with the risk assessment is provided at the end of this document.

Physical hazards

Manual handling of loads
Pregnant women are especially at risk when performing manual handling tasks. This is due both to postural difficulties and to hormonal changes that may increase the susceptibility of the body to injury. There can also be an increased risk to those who have recently given birth, particularly after a caesarean section. There is no evidence that breastfeeding mothers are at greater risk than other workers when performing manual handling tasks.

Manual handling should be avoided by pregnant women unless the risks are judged to be low. If this is not possible the character and extent of the tasks should be controlled so that the risk of injury is minimised and in cases where heavy or repetitive manual handling is an integral part of the individual's job they may need to be temporarily re-deployed during the pregnancy and for a period of time after they have given birth. Human Resources should be consulted in such cases.

The University Code of Practice "Manual Handling of Loads - guidance on good practice and risk assessment" provides information on safe manual handling and on the assessment of manual handling tasks. Copies are available from Safety & Environmental Protection Services.

Work with computers
Women who are working with computers may experience difficulties achieving a comfortable working posture as the pregnancy progresses and difficulties in sitting for long periods. Supervisors should take account of this and should discuss this with the staff member regularly so that potentially beneficial modifications to working patterns or equipment can be considered. SEPS produce separate guidance on ergonomic aspects of computer workstations that may be of use when looking at this. There is no risk from any radiological emissions from computer screens.

Ionising radiation
As soon as their pregnancy is confirmed staff working with ionising radiation should inform their Radiation Supervisor who must make arrangements to minimise their exposure to radiation. Pregnant women should not perform duties that would require their classification as classified radiation workers. Further advice is available from the Radiation Protection Service (RPS).

Non ionising radiation
This term includes optical radiation (including ultraviolet and infra-red sources and lasers) and electromagnetic fields and waves (e.g. radio-frequency (RF) radiation). Pregnant or breastfeeding women are at no greater risk from exposure to optical radiation than other workers. Exposure to electric and magnetic fields should be kept within the limits set by the National Radiological Protection Board. Further advice is available from RPS.
Shocks, vibrations or movement
Pregnant women or those who have recently given birth should avoid work likely to involve uncomfortable whole body vibration, especially at low frequencies, or where the abdomen is exposed to shocks or jolts. (E.g. riding in or driving off-road vehicles). Breastfeeding women are at no greater risk than other workers form this hazard.

Noise
There is no specific risk to pregnant or breastfeeding women from exposure to high noise levels although, as is the case with all people, prolonged exposure may cause stress. This can lead to raised blood pressure and tiredness. Compliance with the current requirements of the Noise at Work Regulations 2005 is considered sufficient to meet the needs of new or expectant mothers. Advice on these regulations is available from Safety & Environmental Protection Services.

Extremes of heat or cold
When pregnant, women have a lower tolerance to heat and may be more liable to faint or suffer heat stress. However, temperatures within the range encountered in normal office work are not likely to represent a significant hazard. Access to refreshments and rest periods help to alleviate any problems that may arise. No specific pregnancy related health and safety problems arise from exposure to cold conditions but clearly such exposure should be minimised as a matter of normal workplace standards.

Work in hyperbaric atmospheres and underwater diving
Pregnant women should not work in environments that are pressurised above normal atmospheric pressure nor should they undertake underwater diving. Women who are breastfeeding can usually undertake these activities unless advised otherwise by their doctor.

Chemical hazards
Work with chemical substances that are classed as hazardous to health is covered by the Control of Substances Hazardous to Health Regulations 2002. General advice on control measures can be found in the COSHH Approved Code of Practice. (This is available from HSE Books or via the online information system subscribed to by the University). Users should note that correctly managed work with a chemical should entail very little exposure to hazardous chemical substances and that use is NOT necessarily the same as exposure. This distinction should be kept in mind when carrying out the assessment.

Chemical agents that may be absorbed through the skin. Some hazardous substances can penetrate intact skin and become absorbed into the body where they may cause adverse effects. For those materials that have been assigned occupational exposure limits one can identify whether there is a risk of skin absorption by consulting the current edition of HSE Guidance Note EH40 where they are marked "Sk" in the tables in the booklet. The container label and material safety data sheet should also carry this information. These sources should be consulted for information on substances not listed in EH40.

During pregnancy particular care should be taken to guard against skin absorption by using engineering control measures, where possible (e.g. fume cupboards, enclosed processes etc.) and by using personal protection as an additional precaution (e.g. gloves, lab coats, faceshields etc.).

Carcinogens, teratogens and mutagens. Some substances may be labelled with standard risk phrases which indicate that a particular hazard is associated with the material. Materials which should carry such labelling are listed in the approved list for supply issued under the Chemicals
(Hazard Information and Packaging) Regulations. The standard risk phrases may be found on the container label or on the material safety data sheet for the substances. Some examples of the wording that corresponds to these phrases are given below. Note that this is not a complete list.

R40: Limited evidence of a carcinogenic effect
R45: May cause cancer
R46: May cause heritable genetic damage
R49: May cause cancer by inhalation
R60: May impair fertility
R61: May cause harm to the unborn child
R62: Possible risk of impaired fertility
R63: Possible risk of harm to the unborn child
R64: May cause harm to breastfed babies

These materials are particularly hazardous to those trying to conceive a child or to new or expectant mothers and exposure to them should be avoided by these groups of workers.

Inhalation anaesthetics. Over the past decade there has been concern about the possibility of genetic and physiological effects resulting from long term exposure to some inhalation anaesthetics. Use of both halothane and nitrous oxide has been reviewed by the Health and Safety Executive and Workplace Exposure Limits (WEL) of 10ppm (halothane) and 100ppm (nitrous oxide) have been set. Where properly maintained gas scavenging systems are in use there is usually no difficulty in keeping concentrations below these levels.

Antimitotic (cytotoxic) drugs. These drugs are used in cancer chemotherapy and have the ability to arrest the multiplication of living cells. They achieve this by interfering with the essential functions of the cell, especially those involving cell division and can, in the long term cause damage to the sperm and egg cells. Some can cause cancer. Occupational exposure is usually by inhalation or absorption through the skin. These substances are exempt from the normal labelling requirements because they are drugs. Those who are trying to conceive a child, are pregnant or breastfeeding, should avoid exposure to such materials.

Carbon monoxide. Pregnant women should avoid working in an atmosphere where there is a high concentration of carbon monoxide (CO). Carbon monoxide readily crosses the placenta and may result in adverse effects on the foetus. High levels may be found in vehicle repair workshops or other areas where internal combustion engines are run without adequate extract ventilation. There is no indication that breastfed babies suffer adverse effects as a result of their mother's exposure to carbon monoxide.

Lead and lead derivatives. High exposure to lead is associated with increased frequency of spontaneous abortion, stillbirths and infertility. Lead can also enter breast milk and may adversely affect the nervous system of young children. For these reasons the Control of Lead at Work Regulations set a lower permissible blood lead level for women of reproductive age than for men. When pregnancy is confirmed significant exposures to lead should be avoided.

Mercury and mercury derivatives. There is evidence that organic mercury compounds may have adverse effects on the foetus. No such clear evidence exists for mercury or inorganic mercury compounds, although it would be advisable to avoid exposure to these materials also.
**Biological hazards**

Work with biological agents is covered by the Control of Substances Hazardous to Health Regulations 2002 and general advice on control measures can be found in the COSHH Approved Code of Practice. (HSE Books Reference number: L5)

Hazardous biological agents are classified by the Health and Safety Executive's (HSE) Advisory Committee on Dangerous Pathogens (ACDP) into one of four hazard categories. These classifications are set out in an HSE publication entitled "The Approved List of Biological Agents" (available from HSE website). Many biological agents within hazard categories 2, 3 and 4 can affect the foetus if the mother is infected during pregnancy or pose a significant risk to a new born child. (No category 4 agents can be handled in any UK University at this time.)

Exposure to biological agents may occur in a laboratory setting where there is a deliberate intention to work with the agent or through other work where exposure to the agent is foreseeable but is incidental to the principle task.

Normally the precautions taken in biological laboratories are such as to minimise the risk of accidental exposure of any staff to the agents handled. In many cases such "good laboratory practice" will be sufficient to adequately control the risks to new or expectant mothers. However where there are particular risks associated with some biological agents, additional precautions may be appropriate. This may include ceasing work with such agents for the duration of the pregnancy and for a period after the birth.

When working with animals there may be a risk of zoonotic infection if the animals are infected with agents that may be transmitted to humans. One of the best known examples of this is enzootic abortion in sheep. This is caused by the organism *Chlamydia psittaci* and may cause abortion and illness in pregnant women. Pregnant women should therefore be excluded from working with pregnant ewes.

Other examples of agents where there may be a risk during pregnancy include rubella (German measles), toxoplasma, parvovirus B19 and cytomegalovirus. Agents such as hepatitis B, HIV, herpes, tuberculosis, syphilis, chickenpox and typhoid may pose a risk to the child either through infection of the mother during pregnancy or through infection of the child during or after birth, including as a result of breastfeeding or other close physical contact. Note that these are not comprehensive lists.

Pregnant women can be at their most vulnerable from potentially infectious agents during the early weeks of pregnancy. For this reason, women who are intending to become pregnant and who work with the agents indicated above, or with others posing similar hazards, should seek medical advice on the advisability of continued exposure to these agents.

**Job factors and working conditions**

During pregnancy the nature of the individual’s job should be considered to identify whether there are aspects of this work that may place the woman at greater risk. These include factors such as working hours and working time (e.g. night work, shift work or long working hours.), excessive or difficult travel as part of the job, lone working, risk of attack or violence etc. These can be more difficult to manage and for the individual to cope with during pregnancy. The effects of stress and depression should also be considered.

Further advice on the hazards outlined in this guidance is available from: Safety & Environmental Protection Services (Extn. 5532), Radiation Protection Service (Extn. 4471) or Occupational Health Unit (Extn. 7171)
## Risk Assessment Form – New and Expectant Mothers at Work

<table>
<thead>
<tr>
<th>Name of New/Expectant Mother</th>
<th>School/ Institute/ Service</th>
<th>Unit</th>
<th>Laboratory</th>
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</table>

Is there any advice provided by the woman’s health professional? (remember the need for confidentiality)

<table>
<thead>
<tr>
<th>Identified Hazards</th>
<th>Applies Yes/No</th>
<th>Information about controls</th>
<th>Action to be taken/by whom/date</th>
<th>Date for review/review by (initials)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manual handling</td>
<td></td>
<td>Reduce the amount of physical work or provide aids to reduce the risk.</td>
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<td></td>
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<tr>
<td></td>
<td></td>
<td>List the manual handling operations which should be avoided.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Alter the nature of the task to reduce risks from manual handling mothers.</td>
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</tbody>
</table>
| Movements and postures | ▪ Avoid spending long periods handling loads, or standing/sitting without regular exercise/movement to maintain circulation.  
▪ Provide the opportunity to alternate between standing and sitting. If this is not possible, you should provide for breaks. |
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<tbody>
<tr>
<td>Working with display screen equipment</td>
<td>▪ Ensure working posture is appropriate, that a risk assessment has been done and that adequate work breaks can be taken.</td>
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</tbody>
</table>
| Working alone | ▪ Review and revise access to communications with others.  
▪ Consider levels of supervision involved |
| Stress | ▪ Adjust working conditions and hours  
▪ Ensure that necessary understanding, support and recognition is available (consider the return to work). Take account of known organisational stress factors (shift patterns, job insecurity, workloads etc) and the particular medical and personal factors affecting the individual. |
| Travelling either inside or outside workplace | See the hazards column for specific information on fatigue, vibrations, stress, static postures etc. |
| Work and personal protective equipment | ▪ Wherever possible, the risk should be avoided by adaptations or substitution, e.g. providing suitable alternative equipment to allow the work to be conducted safety and without risk to health. |
| Mental and physical fatigue and working hours | ▪ Adjust working hours temporarily, as well as other working conditions, including the timing and frequency of rest breaks.  
▪ The need for physical rest may increase. As appropriate, allow access to somewhere to sit or lie down comfortably in private and without disturbance. |
| Work related violence       | - Change the design of the job i.e., avoiding lone working, reducing use of cash, maintaining contact with workers away from the base.  
|                           | - Improve the design or layout of the workplace  
|                           | - Provide adequate training and information.     |
| Hazardous substances       | Carry out a COSHH assessment for women who are pregnant, have recently given birth or who are breastfeeding. |
| Infectious Diseases        | Carry out a COSHH assessment for women who are pregnant, have recently given birth or who are breastfeeding. |
| Biological agents of hazard groups 2, 3 and 4, for example, infections which are transmitted from animals and birds to humans through activities at work, hepatitis B. | |
| Chickenpox / shingles      | Pregnant women who have been in contact with chickenpox or shingles and have no history of chickenpox must contact their GP promptly for advice. |
If you identify any further hazards or if any of the following apply to the work carried out please contact your local safety co-ordinator, SEPS, RPS or Occupational Health for further advice as appropriate:

- Work at height, work related violence, shocks and vibration, ionising and non-ionising electromagnetic radiation, confined spaces, mercury and mercury derivatives, lead and lead derivatives, carbon monoxide. Further hazards should be detailed below as applicable:

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Controls</th>
<th>Review Date</th>
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**Other aspects of the pregnancy which may be affected by work**

e.g. exposure to smells affecting nausea, breast discomfort due to increased size and sensitivity

(The impact will vary during the course of the pregnancy and you will want to keep their effects under review)

<table>
<thead>
<tr>
<th>Aspect/work issue</th>
<th>Controls</th>
<th>Review Date</th>
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The persons below should sign to show that the assessment is a correct and reasonable reflection of the hazards and of the control measures and actions required.

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<thead>
<tr>
<th>New/Expectant Mother’s name (please print):</th>
<th>New/Expectant Mother’s signature:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>School/ Institute Safety Co-ordinator’s name (please print):</td>
<td>Safety Co-ordinator’s signature:</td>
<td>Date:</td>
</tr>
<tr>
<td>Line Manager’s name (please print):</td>
<td>Line Manager’s signature:</td>
<td>Date:</td>
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Please note. Where a significant risk still remains, i.e. the task cannot be avoided/carried out by someone else or further controls cannot be implemented, you must liaise with the local Safety Co-ordinator, Occupational Health/SEPS/RPS and your HR section.

This risk assessment should be held in a confidential personnel file. The employee should keep a copy for their own use and reference.