



RISK ASSESSMENT FOR HIGH RISK GROUPS

(Formerly 'High Potential Risk Groups in Risk Assessment')

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INTRODUCTION

Risk assessment should in theory be “person-specific”, i.e. cover the individual requirements of all staff working under it. However, in practice this is not normally practicable or feasible. In order to prevent repetition and overburdening staff carrying out risk assessment as well as ensuring consistency of precautions, it is often best to attempt to specify precautions under a risk assessment that will cover **all** staff, even those who may be at greater risk than the majority of the relevant workforce. There is a possibility this may lead to more onerous precautions and stricter working methods than may be necessary for some staff but the great advantage is consistency in approach that can be understood and followed by all persons undertaking the work.

It must be accepted that, although this approach is the most practical one, it is not always appropriate as there can be certain individuals or groups of persons who are at higher risk than the rest of the working group. These persons may require stricter, more stringent precautions to adequately protect them. In such cases the risk assessment should identify those staff that are at higher than usual risk and, if necessary, specify the approach that ensures those persons are given further protection as required, with possible application of additional precautions.

Excluding staff from a particular activity due the elevated risk their particular condition or status creates is an option but this extreme measure should not be taken lightly and should only be used as the last option. To exclude staff is not only poor practice but also indicates there is a lack of confidence in the effectiveness of the general precautions assigned. It may also be discriminatory.

Some members of staff may wish to self-exclude themselves from certain work on the grounds that they consider their individual higher risk circumstances will affect their mental well-being by creating stress when undertaking that work. In such cases the individual's circumstances should be discussed with managers and safety / occupational health / welfare professionals. If their concerns are agreed as being on justifiable grounds self-exclusion can allow a more acceptable way of removing staff from undertaking activities without a blanket ban on certain classes of employee.

SCOPE

This Procedure is written to specifically cover the following groups of workers / students who are at higher than usual risk:

- Young persons and children aged under 18 years
- Women of childbearing age who may be pregnant, including those who are as yet unaware of their pregnancy

OTHER HIGH RISK GROUPS

Other persons who may be at higher than normal risk but are not considered in detail under this Procedure (although references are given in Appendix 3) include:

- Visiting scientists or collaborators undertaking practical work on a NERC site who may be experienced workers but are not familiar with the local safe working procedures
- Inexperienced workers such as work-experience placements, students and new starters, irrespective of age, who are unfamiliar with their new workplace and its safe working procedures
- Those whose mother tongue is not English and who may not understand the implications in phrasing of safety information and instruction
- Volunteer or casual workers who have no background experience of the full safety systems of the organisation or have limited experience of work
- Those suffering illness or returning to work after long-term sickleave
- Those who are undergoing a drug regime such as, cancer or transplant patients, particularly if their treatment means they have a suppressed immune system.

These other high risk groups should be considered under risk assessments that cover induction / return to work for all new starters or returners after long absences or who need additional precautions or working adaptations / restrictions and appropriate note taken of their particular situations and needs.

There may be other persons who may require a higher level of care to be applied than is necessary for other staff doing the same tasks. These may be those with pre-existing medical conditions or injuries so requiring extra care to ensure they can continue safely in undertaking work without exacerbating their conditions or placing themselves at greater risk. There are certain regulations that require identification of those who be at higher than usual risk in that work. Such Regulations include: Control of Noise at Work; Control of Vibration; Personal Protective Equipment (e.g. for eye protection); Control of Substances Hazardous to Health; Ionising Radiation; Manual Handling and Display Screen Equipment.

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PROCEDURE

The Management of Health and Safety at Work Regulations 1999 (MoHSaWR)

These Regulations require specific, additional risk assessments are in place for Young Persons and Women of Child-bearing age, these being two groups of staff whose circumstances or status place them at a higher than usual level of risk. The aim is for it to be identified in the risk assessment that **either** additional precautions need to be applied **or** (preferably) confirm that additional precautions are not required and that the 'universal' precautions protect even these two higher than usual risk groups of staff.

Where there will be young persons employed, or where women of childbearing age are employed in tasks where there is an identified specific risk to the health of the unborn or newborn child, a specific risk assessment or statement in the overall risk assessment will be required. This is to show that the additional risks involved have been addressed and precautions are considered adequate.

An example of a suitable statement where it is considered no additional precautions for women of childbearing age are required in order for them to continue working under that risk assessment could be: 'It is considered the precautions specified in this risk assessment will adequately cover the risks to new and expectant mothers'.

Young persons

Young persons are defined as persons who are between minimum school leaving age (normally 16 years old but can also include 15 year olds if their 16th birthday is before the beginning of the next school term) and 18. A child is someone below minimum school leaving age.

A risk assessment must be carried out for all work experience students and for any young persons (i.e. those who are below the age of 18) before they first begin work

with NERC. This is to ensure that any additional steps have been taken to minimise and adequately control any particular risks that are specifically relevant for young persons.

Detailed guidance on items that need to be considered when undertaking risk assessments that cover young persons is given at Appendix 1.

The young person's risk assessment does not need to totally replace existing risk assessments for work but should supplement them by covering specific risks that are relevant to young persons being involved in our work and specify any additional measures and precautions that are applicable. Where possible, use should be made of generic assessments of risk for young persons but individual characteristics of a particular young person may need to be considered separately.

It is no longer mandatory to inform parents of young persons about the risk assessment in writing but you should be prepared to do so if requested.

Young persons have special rights under the Working Time Regulations (which are not under health and safety law). These lay down maximum hours per day and week, times of day when they may not work (i.e. at night) and break times.

It is important that the risks involved in the work and the precautions required are carefully explained to and understood by the young person. They need to understand the risks in the areas in which they are to work, have been given clear instructions on how to work in safety, understand exclusions and be carefully supervised

NERC will **not normally employ** young persons under the age of 16. However, young persons of this age may on occasion work temporarily on NERC sites for short periods as a result of "Work Experience" programmes.

An alternative arrangement whereby students of less than 16 years age can gain experience of a workplace without actually working or being exposed to hazardous activities is "work shadowing". This is where the student is merely present, usually sitting or standing alongside the NERC employee, observing and experiencing the work situation but not actually performing any work themselves. This arrangement will make the risk assessment process much easier provided the shadower does not enter any area where high risk work is being undertaken or high risk materials are being used.

The Health and Safety (Training for Employment) Regulations 1990 define that the meaning of at work extends to students undergoing relevant training i.e. work experience. In other words, work experience students must be considered as employees for the purposes of health and safety legislation even if they are not being paid and do not have a contract of employment. This would probably also extend to 'interns'.

Some NERC centres / sites may appoint a local **Schools Liaison Officer** who gets involved in arrangements for work experience placements but elsewhere this role

may be covered by a number of different members of staff or there may be no-one assigned a specific role in this area.

Tasks that need to be covered before the visit are:

- agreement reached with any scheme organisers, local management, HR etc. as to the work experience visit, what will be involved / excluded and who will be responsible for supervising the work experience
- risk assessments and (if appropriate) safe systems of work for the tasks in which the student will be involved agreed

On the day the Young Person **starts work** the supervisor should:

- provide a general induction to the site
- explain emergency procedures, health and safety arrangements and where relevant information is available (providing hard copies if necessary)
- explain the basics of work processes and the hazards and risks involved, seeking the student's engagement in understanding what precautions may be needed
- go through the risk assessments with the student, taking account of the student's inexperience and making this a positive learning experience

Consideration of and involvement in health and safety issues should be seen as part of the benefit of the training/work experience which the students receive from NERC.

Exclusions should be identified e.g. young persons must not undertake manual handling above the relevant HSE thresholds ([see here](#)).

Supervision must be close and continuous if necessary.

SYSTEM DIAGRAM FOR YOUNG PERSONS

MANAGEMENT

Ensure agreements and arrangements are in place to cover placement of young persons below minimum school leaving age that include health & safety aspects

For employees between 16 and 18 year old, ensure special attention is paid to specific young person risks aspects as required by MoHaSWR

Obtain agreement with work experience organisers and internal providers utilising the assistance of management and Local Safety Advisers

ORGANISE PLACEMENTS

ON THE DAY THE YOUNG PERSON ARRIVES ON SITE

SUPERVISOR AND LINE MANAGER

Explain the nature of the work to be undertaken, the risks and the precautions

Explain risk and how it is assessed

Explain the basics of the tasks to be performed during the placement and get the young person to try to identify the hazards and risks involved

Go through the existing risk assessments with the young person and make any necessary modifications, taking account inexperience

Explain the Safe System of Work and any changes made, ensuring that the young person has a written record of safety documentation

SUPERVISE YOUNG PERSONS CLOSELY AND, IF NECESSARY, CONTINUOUSLY

IDENTIFY AREAS OR TASKS FROM WHICH THE YOUNG PERSON IS EXCLUDED

Inform NERC staff of the exclusions

Check documentation, detail safety instructions, documentation and exclusions

Women of child-bearing age, expectant and new mothers

Particular health and safety risks are associated with pregnancy and new born mothers. Some of these risks may be present, or even greatest, in the early stages of pregnancy, when the woman might not even be aware that she is pregnant. It is for this reason that the MoHSaWR makes specific risk assessment for women of childbearing age necessary, with the risk to pregnant women being the prime concern.

Management are responsible for setting up, overseeing and monitoring risk assessments within their area of responsibility (see the [NERC Health & Safety Procedure Number 12: Risk assessment and Risk Management](#)). Management at all levels should ensure that the possibility of pregnancy has been covered in risk assessments for all women of child-bearing age and the following areas of concern addressed

Work requiring particular attention during pregnancy

Detailed guidance on what may need to be considered when undertaking a specific risk assessment for women of childbearing age / new or expectant mothers is given at Appendix 2.

Action by staff

Staff who suspect that they are pregnant, should notify the employer as soon as possible, although it is not a legal requirement to do so. This will enable a re-evaluation of the relevant risk assessments and safe systems of work pertinent to their work. In the vast majority of cases this will require little, if any, adaptation of their work but it is important notification occurs as early as possible in the pregnancy so that any re-evaluation is able to address risks fully.

However, it is recognised that some members of staff will not wish to inform line managers that they are pregnant at an early stage. **Welfare Officers** can be consulted in complete confidence and they can arrange for advice and assistance, outside the local line-management structure, through Centre/Survey or NERC Safety Advisors. The individual staff member will not be identified. **You should inform your local line-managers as soon as you feel able to do so, especially if adaptations to the work arrangements may be required.**

Action by managers when they are informed that a staff member is pregnant

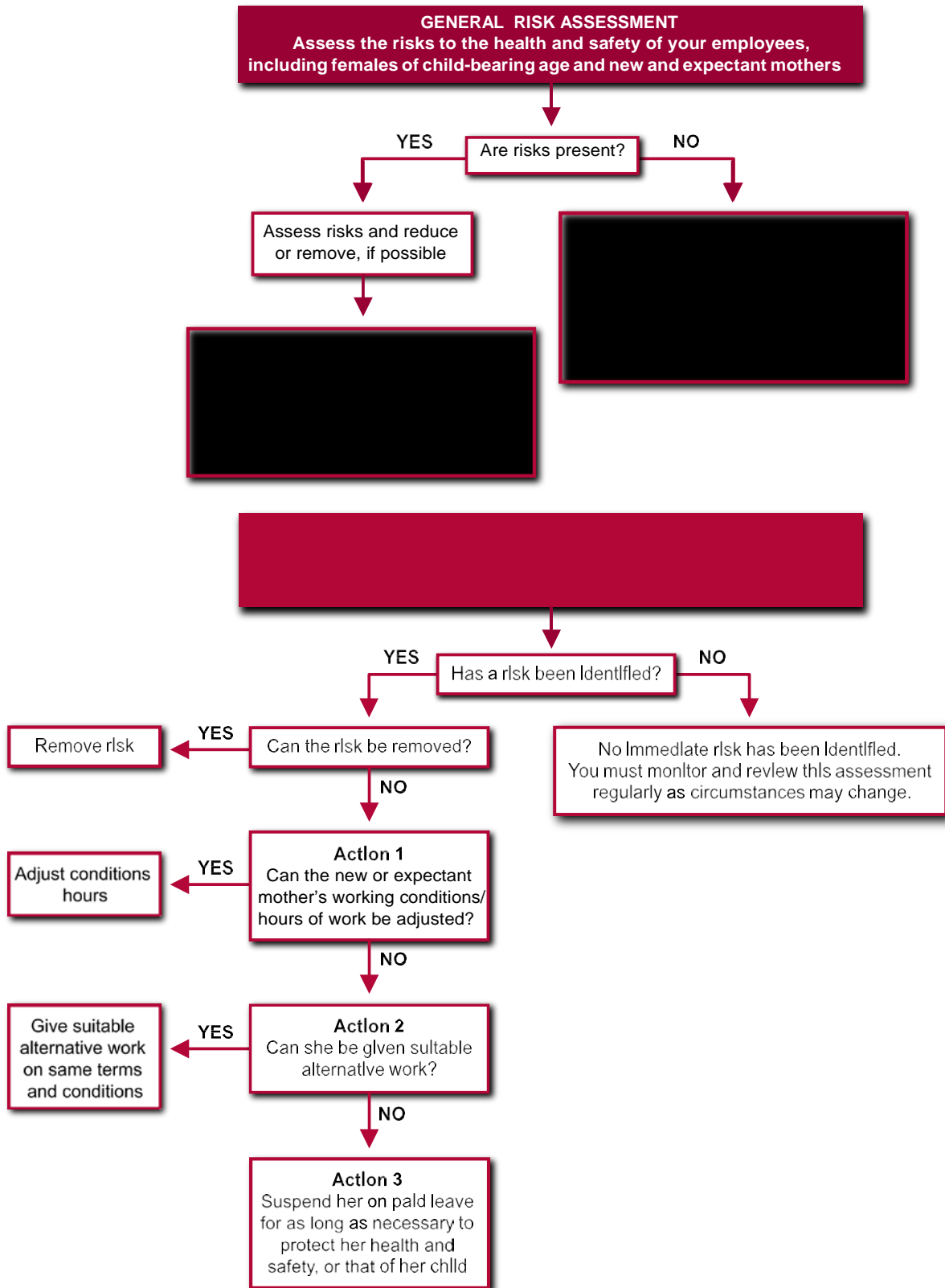
Ensure that all risk assessments and safe systems of work have been re-evaluated using the guidance and types of activity to consider that is given above. If COSHH, ionising radiation and other risk assessments have been conducted properly, they should already specify adequate precautions that will cover the possibility of pregnancy for all women of child-bearing age and protect against any harmful effects. If they have not or there are aspects of the pregnant individual's work that require adaptation, risk assessments specific to that individual's situation should be re-evaluated and suitable modified working practices put in place as soon as possible **as a matter of urgency.**

It should be noted that if the conclusion of the re-evaluation of risk assessments in the light of pregnancy is that no modification to existing working practices are required to further protect the pregnant individual it may still be the case that the individual wishes to change their working practices or avoid certain activities. Managers should be sympathetic to this approach if it can be justified and discuss with HR if 'self-exclusion' for the duration of the pregnancy can be accommodated. Even if there is no strict safety justification for this change in working practices, the stress that may be caused by not accepting this could itself have an adverse effect on the pregnant woman's, and her child's, wellbeing.

Other actions that could be taken for new or expectant mothers are adjustment of working conditions, more frequent breaks, adapting or modifying the work practices or workplace, finding alternative work etc. or, as the very last resort, suspending on paid leave. Human Resources should be involved before making significant changes in working arrangements and the Employment Rights Act 1996 provides that, where appropriate, suitable alternative work should be offered on the same terms and conditions before any suspension from work is considered.

It is a requirement of the Workplace (Health, Safety & Welfare) Regulations 1992 that employers provide facilities and opportunities for pregnant women and nursing mothers to rest. These should be conveniently situated in relation to toilets and, where necessary, include the facility to lie down. Breast-feeding mothers should be provided with suitable facilities to express and safely store milk whilst at work. Ladies toilets are **not** considered suitable for this purpose.

Managers should assess the working environment and aim to provide flexible working conditions and equipment which will aid the expectant mother in her job.



NOTE: Employers have a legal duty to revisit, review and revise the general risk assessment if they suspect that it is no longer valid, or there have been significant changes to anything it relates to.

APPENDIX 1 – YOUNG PERSONS

This appendix gives more detailed guidance on items that need to be considered when undertaking risk assessments that cover young persons.

Regulation 3 of MoHSaWR makes specific requirements at paragraph 5 for risk assessment of young persons, requiring in particular that account is taken of:

- The inexperience, lack of awareness and immaturity of young persons
- The fitting out and layout of the workplace and the workstation
- The nature degree and duration of exposure to physical, biological and chemical agents
- The form, range and use of work equipment and the way in which it is handled
- The organisation of processes and activities
- The extent of health and safety training provided or to be provided to young persons and
- Risks from agents, processes and work listed in the EC directive on the protection of young persons at work
- Identifying young persons as a group being especially at risk.

Regulation 19 of MoHSaWR concerns itself entirely with protection of young persons and places a specific requirement on the employer to protect young persons from risks which arise as a result of their lack of experience or absence of awareness of existing or potential risk or the fact young persons have not yet fully matured. In particular, no employer may employ a young person for work:

- Which is beyond his physical or psychological capacity
- Involves harmful exposure to agents which are toxic, carcinogenic, mutagenic, teratogenic or otherwise chronically affect health
(Note: this would include chemicals assigned the following GHS Hazard Statements: H340 - May cause genetic defects; H341 - Suspected of causing genetic defects; H350 - May cause cancer; H351 - Suspected of causing cancer; H360 - May damage fertility or the unborn child; H361 - Suspected of damaging fertility or the unborn child; H362 - May cause harm to breast-fed children – may cause harm by ingestion through mother's milk; H300 Fatal if swallowed; H310 Fatal in contact with skin and H330 Fatal if inhaled as well as agents such as lead and asbestos. It would also include work with dangerous pathogens i.e. those in hazard group 2 and above and genetically modified organisms in risk class 2 and above)
- Involving harmful exposure to radiation *(see IRR Regs and their ACoP & Guidance but in essence young persons should not work with ionising radiation)*
- Involving risks that will not be recognised or avoided by young persons owing to lack of attention or lack of experience or training or
- Poses a risk to health from extreme hot or cold, noise or vibration.

In addition, there are restrictions laid down with regard to young persons for certain types of work such as in agriculture, construction, explosives, compressed air, electrical safety, carriage of dangerous goods, shipbuilding, lifting operations and for

certain high risk items of work equipment (including woodworking machines, power presses and lift trucks).

If it is necessary for their training and they are supervised by a competent person with the risks reduced to the lowest level that is reasonably practicable, young persons (but not children) may undertake these tasks e.g. as part of an apprenticeship.

APPENDIX 2 – Women of Childbearing Age

This appendix gives more detailed guidance on what may need to be considered when undertaking a specific risk assessment for women of childbearing age, new or expectant mothers.

The Management of Health and Safety at Work Regulations 1999 make specific requirements for women of childbearing age, specifically for new and expectant mothers:

- Regulation 16 'Risk assessment in respect of new and expectant mothers' requires that where women of a childbearing age are working, the general risk assessment ... shall also include an assessment of the risks which are caused by reason of her condition (*i.e. pregnancy or recent birth*) to the health and safety of a new or expectant mother or to that of her baby from any processes or working conditions, or physical, biological or chemical agents. Where the other precautions (*i.e. those assigned for all workers under the general risk assessment*) would not avoid these risks, the employer shall, if it is reasonable to do so, alter her working conditions or hours of work, or if it is not reasonable to do so, suspend the employee from work for so long as is necessary to avoid such risk.
- Regulation 17 'Certificate from registered medical practitioner in respect of new or expectant mothers' requires that where the new or expectant mother works at night and the registered medical practitioner shows that for health and safety reasons she should not be at work for any period identified in the certificate, the employer should suspend her from work for as long as is necessary for her health and safety (*note: the Employment Rights Act 1996 requires that suitable alternative daytime work on the same terms and conditions should be offered before suspending the women from work*)
- Regulation 18 'Notification by new or expectant mothers' states that employers are not required to take any action in relation to an employee (*i.e. altering working conditions or hours of work or offering alternative employment or suspension*) until she has notified the employer in writing she is pregnant, has given birth in the previous six months or is breastfeeding.

The following additional sets of regulations have specific relevance, to a varying extent, for work by women of childbearing age, expectant or new mothers:

- Workplace (Health, Safety and Welfare) Regulations 1992
- Manual Handling Regulations
- Display Screen Equipment Regulations
- Control of Substances Hazardous to Health Regulations 2002 as amended
- Control of Noise at Work Regulations 2005
- Control of Vibration at Work Regulations 2005
- Control of Lead at Work Regulations 2002
- Control of Electromagnetic Fields at Work Regulations 2016 (currently in draft)
- Diving at Work Regulations 1997

- Work in Compressed Air Regulations 1996
- Work at Height Regulations 2005
- Personal Protective Equipment Regulations 1992
- Provision and Use of Work Equipment Regulations 1998

References and links to guidance are given in Appendix 3.

The following risks are identified as being pertinent to the risk assessment for women of childbearing age and of risk to the pregnant or new mother and her newborn child. These derive from the annexes to the European Union Directive 92/85/EEC on pregnant workers of 19th October 1992. Guidance is given on these individual risks to new or expectant mothers and how they may be addressed.

Note: The main requirements of this directive are met by the MoHSaWR.

Physical risks

- Movements and postures e.g. prolonged standing or sitting, layout of workplace and workstations; restricted workstations / working area and lack of space are also relevant and to be avoided.
- Manual handling e.g. lifting heavy loads or repetitive movements, especially twisting. Specific consideration of manual handling by pregnant women is advisable on an individual basis. The HSE guidance to the regulations can be summarised as stating that manual handling has significant implications for the health of the pregnant worker (and the foetus), particularly if combined with long periods of standing and/or walking. Hormonal changes during pregnancy can affect the ligaments and joints increasing the risk of injury during the last three months. As pregnancy progresses it also becomes more difficult to achieve and maintain good postures and this further reduces manual handling capability. Particular care should also be taken for women who may handle loads during the three months following a return to work after childbirth. A plan on how to respond when pregnancy is confirmed may include:
 - re-assessment of the handling task (positioning of the load and feet, frequency of lifting) to consider what improvements might be made
 - training in recognising ways in which the work may be altered to help with changes in posture and physical capability, including the timing and frequency of rest periods
 - consideration of re-arranging or re-assigning the work where the risk cannot be reduced by a change to the working conditions
 - liaison with medical practitioners e.g. GPP or occupational health and
 - careful monitoring of the employees after return to work following childbirth.
- Shocks and vibrations - especially low frequency whole body vibration or where abdomen is affected by shocks or jolts e.g. from travel in a vehicle over rough ground or in a fast moving boat in rough sea conditions. Guidance to the Regulations indicates pregnant women are considered to be one of the groups of persons whose health is at particular risk from exposure to whole body vibration (along with young people - whose muscles and bones are still developing); people with neck or back problems; people who have recently undergone any

form of surgery and those people with internal or external prosthetic devices not including dentures).

- Noise - there is no specific risk to the pregnant woman or unborn child from noise but excessive exposure can lead to increased blood pressure and tiredness. NERC suggests exposure to noise levels above the lower exposure action value of 80 dB(A) $L_{ep,d}$ or a peak sound pressure of 135 dB(C) should be avoided. Guidance to the Regulations indicates pregnant women are considered to be one of the groups of persons whose health is at particular risk from exposure to noise (along with young people).
- Ionising radiation. A specific risk assessment for that individual involving the RPS should be undertaken as soon as pregnancy is confirmed. The Ionising Radiations Regulations 1999 require the conditions of radiation exposure, after the employer has been notified of the pregnancy, ensure the equivalent dose to the foetus is unlikely to exceed 1mSv during the remainder of the pregnancy and, in relation to an employee who are breastfeeding, the conditions of exposure are restricted so as to prevent significant bodily contamination of that employee. Air crew may also need consideration with regard to cosmic radiation.
- Non-ionising radiation – exposure to very high levels of electromagnetic fields at work should be avoided; such exposure is very unlikely to occur in work within NERC. Guidance to EC Directive 2013/35/EU indicates it may be wished to use the ‘public’ exposure limit for electromagnetic radiation for pregnant workers rather than the ‘worker’ limit. The Control of Electromagnetic Fields at Work Regulations 2016 designate pregnant women as being workers at particular risk.
- Compressed air and diving e.g. working in pressurised conditions or diving can lead to a risk of decompression illness (the ‘bends’) which could potentially be harmful to the unborn child from gas bubbles in the blood circulation system of the mother. Pregnant women should not dive or work under hyperbaric conditions.
- Underground mining work – this type of work is liable to include many of the other physical risks described above.

Biological agents

- Infectious diseases: work with pathogens, samples that may contain pathogens or exposure to animals that may carry ‘zoonoses’ that can cause occupational infections and could cause harm to the unborn child. The following organisms are listed in the HSE guidance on infection risks to new and expectant mothers as being of relevance here:
 - Chlamydia psitacci (ACDP HG3 - sources are infected birds such as parrots, turkeys, pigeons, ducks and also possibly sheep during lambing)
 - Cytomegalovirus - CMV (ACDP HG2 - sources normally human but up to 50% of the population will have immunity from exposure during their lifetime)
 - Hepatitis A (ACDP HG2 - sources humans, water or food via faecal contamination) – vaccination / immunisation available
 - Hepatitis B (ACDP HG3 - source human via contact with blood and body fluids, contaminated sharps and laboratory samples) – vaccination available

- Human Immunodeficiency Virus – HIV (ACDP HG 3 - source human via contact with blood and body fluids, contaminated sharps and laboratory specimens)
- Listeria monocytogenes (ACDP HG2 - source contaminated food such as unpasteurised milk products, eggs, pate and infected animals)
- Human parvovirus B19 (ACDP HG2 - source humans via respiratory secretions)
- Rubella virus - German Measles – (ACDP HG 2 – source humans by close contact and via respiratory secretions) vaccination available
- Toxoplasma gondii (ACDP HG 2 – source oral route by contamination with faeces from infected cats, soil, poorly washed garden produce, undercooked infected meat especially beef, lamb and pork)
- Herpesvirus varicella-zoster - VZV / Chickenpox (ACDP HG 2 - source humans by direct contact, droplet infection or via recently contaminated articles such as handkerchiefs) – vaccination available
- Other possible: Borrelia burgdorferi (Lyme Disease); Coxiella burnetti (Q fever); Campylobacter spp; Salmonella spp; Lymphocytic choriomeningitis virus (LCM); Mycobacterium tuberculosis (TB) and Trepanema pallidum (syphilis) but this list is not exhaustive and Zika virus should be considered as a potential risk to the unborn child until further information is available.

Chemical agents

- Substances which have suspect or confirmed carcinogen, mutagen or toxic to reproduction hazard statements - as assigned by the CLP Regulation are defined as hazardous to pregnant woman and unborn / newborn children:
 - Hazard Statement H340 - May cause genetic defects – proven (class 1a and 1b) mutagen
 - Hazard Statement H341 - Suspected of causing genetic defects - suspect (class 2) mutagen
 - Hazard Statement H350 - May cause cancer - proven (class 1a and 1b) carcinogen
 - Hazard Statement H351 - Suspected of causing cancer - suspect (class 2) carcinogen
 - Hazard Statement H360 - May damage fertility or the unborn child - proven (class 1a and 1b) teratogen
 - Hazard Statement H361 - Suspected of damaging fertility or the unborn child - suspect (class 2) teratogen
 - Hazard Statement H362 - May cause harm to breast-fed children – may cause harm by ingestion through mother’s milk
- Other toxic chemicals – these would include high risk chemicals in the HSE ‘Technical Basis of COSHH Essentials’ classification Hazard Group D (GHS Hazard Statements H300 Fatal if swallowed, H310 Fatal in contact with skin and H330 Fatal if inhaled) & Hazard Group E.
- Mercury – this includes both elemental and compounds. Organic mercury compounds have been shown to be toxic to reproduction but even elemental and inorganic mercury compounds are liable to be very toxic and should be avoided if at all possible.
- Antimitotic (cytotoxic) drugs – these are liable to be harmful to the unborn child so exposure to them should be avoided in the workplace e.g. by healthcare workers

- Pesticides – care is required to ensure the conditions of use, precautions and restrictions assigned by the pesticide approval are followed. The residual risk of contamination and exposure to pesticides downstream of their original application must also be considered.
- Percutaneous risk (Sk notation) - certain chemicals pose an additional risk of absorption through intact skin and are assigned a ‘Sk’ notation under EH40. A list of these is given in Appendix 4 but not all will necessarily pose a risk to the unborn child. Exposure will depend on the manner of use but protection will normally be effected by correct use of suitable PPE such as gloves, aprons, over-sleeves, coveralls, wellington boots, and eye / face / head protection that are resistant to the passage of the chemical.
- Carbon monoxide - pregnant women are particularly susceptible to the effects of carbon monoxide as CO will readily cross the placenta and can result in the unborn child being deprived of oxygen.
- Lead – both elemental and compounds. Regulation 4(2) and Schedule 1 of the Control of Lead at Work Regulations 2002 lists activities from which young persons and women of childbearing capacity are prohibited. In addition, the biological monitoring blood lead suspension limit for women of reproductive capacity is set well below the other limits and even below that for young persons. Any significant exposure to lead at work for pregnant women should be avoided.

Working conditions

- Facilities - rooms for pregnant women and nursing mothers to rest and, ideally, somewhere private to express and safely store milk need to be provided.
- Excessive mental and physical fatigue or long working hours – should be avoided.
- Avoidance of stress (including consideration of post-natal depression and anxiety about hazards to the unborn child caused by work, however illogical).
- Passive smoking (*note: this should no longer be a workplace hazard*).
- Temperature – avoiding prolonged exposure to extreme hot or cold environments or sudden changes in temperature.
- Working with display screen equipment – the risks are small but mainly relate to posture, movements (or lack of) and layout rather than the DSE equipment itself. HSE guidance to the DSE Regulations indicates that many scientific studies have been carried out but, as a whole, their results do not show any link between miscarriages or birth defects and working with DSE.
- Working alone – although the general risks associated with lone working should be addressed by normal risk assessment, there are special concerns that may be caused by a pregnant individual undertaking work alone whatever the location or type of work being undertaken. If lone working is to be undertaken, special attention should be paid to the means and effectiveness of maintaining contact, communication and summoning help should it be needed in a hurry
- Working at height – pregnant women should not work at heights from ladders or platforms due to the increased risk of falling and the more serious consequences should a fall occur.
- Travelling – travelling excessive distances can result in other undesirable conditions such as fatigue, vibrations, stress and static posture. Driving may

become difficult or uncomfortable for women in the later stages of pregnancy; prolonged driving should be avoided.

- Violence – consequences of being exposed to risk of violence at work are potentially more serious for a pregnant women so suitable precautions should be applied to further reduce the risk of it occurring and the consequences should it occur, including training, improving design or layout of the workplace and changing the design of the job e.g. avoiding lone working etc.
- Personal protective equipment – the PPE assigned to the task may need review to take account of the particular circumstances, preferably by adaptation or substitution using precautions higher up the hierarchy.
- Nutrition – adequate and appropriate food and drink at regular intervals is important to maintain the health of the new or expectant mother so regular breaks and suitable facilities should be available.

APPENDIX 3: LEGAL REFERENCES & SOURCES OF FURTHER INFORMATION

Legal Aspects / Regs that may be applicable to work by expectant or recent mothers and young persons

1. The Management of Health and Safety at Work Regulations 1999 in particular:
Young persons: Regulations 3 and 19 and
Women of childbearing age: Regulations 16, 17 and 18.

Note: the former L21 ACoP & Guidance on the Regulations has been withdrawn and its replacement is under consultation.

The old ACoP is attached here as a reference until replaced:



L21 MoHaSaWR
1999 ACoP.pdf

2. [The Workplace \(Health, Safety and Welfare\) Regulations 1992](#) (L24, 'Workplace health, safety and welfare. Workplace (Health, Safety and Welfare) Regulations 1992. Approved Code of Practice and guidance)
3. [The Manual Handling Regulations 1992](#) (L23 3rd Edition 2004, 'Manual Handling Manual Handling Operations Regulations 1992 (as amended) Guidance on Regulations', ISBN 978 0 7176 2823 0, *note: in particular paras 205 and 206*)
4. [The Display Screen Equipment Regulations](#) (L26 2nd Edition 2003, 'Work with display screen equipment Health and Safety (Display Screen Equipment) Regulations 1992 as amended by the Health and Safety (Miscellaneous Amendments) Regulations 2002 Guidance on Regulations', ISBN 978 0 7176 2582 6)
5. [The Control of Substances Hazardous to Health Regulations 2002](#) as amended (L5 6th Edition 2013, 'Control of Substances Hazardous to Health, The Control of Substances Hazardous to Health Regulations 2002 (as amended): ACoP and guidance'. ISBN9780717665822)
6. [The Ionising Radiations Regulations 1999](#) (L12, 'Work with ionising radiation: Ionising radiations Regulations 1999, ACoP and Guidance, ISBN0-7176-1746-7)
7. [The Control of Noise at Work Regulations 2005](#) (L 108, 2nd Edition 2005, 'Controlling noise at work: The Control of Noise at Work Regulations 2005, Guidance on Regulations' ISBN 978 0 7176 6164 4)
8. The Control of Vibration at Work Regulations 2005 (L140 '[Hand-arm vibration](#): The Control of Vibration at Work Regulations 2005 Guidance on Regulations', ISBN 978 0 7176 6125 1, and L141 '[Whole-body vibration](#): The Control of

Vibration at Work Regulations 2005 Guidance on Regulations' ISBN 978 0 7176 6126 8)

9. [The Control of Lead at Work Regulations 2002](#) (L132, 'Control of lead at work: Control of Lead at Work Regulations 2002' ACoP and guidance 3rd Edition 2002)
10. The Diving at Work Regulations 1997 (various ACoPs for different types of diving, the most applicable to NERC are L107 2nd Edition 20014, '[Scientific and archaeological diving projects](#): Diving at Work Regulations 1997', ACoP and guidance and L104, '[Commercial diving projects inland/inshore](#): Diving at Work Regulations 1997', ACoP and guidance)
11. The Work in Compressed Air regulations 1996 (The former L96: 'A guide to the Work in Compressed Air Regulations 1996', published by HSE 1996, ISBN 0780717611201 is now withdrawn)
12. [The Work at Height Regulations 2005](#) (INDG401(rev2), published 01/14 'Working at height: A brief guide')
13. [The Control of Electromagnetic Fields at Work Regulations 2016](#), Guidance.

References on chemical agents

14. '[The technical Basis for COSHH essentials](#): Easy steps to control Chemicals', HSE (revised), 2009.
15. Annex VI of European Regulation (EC) No 1272/2008 – Classification, Labelling and Packaging of Substances and Mixtures, Tables 3.1 and 3.2.

The harmonized classification of substances and its officially assigned GHS or risk phrases used to determine hazard group may be searched at the [ECHA C&L inventory database](#). It should be noted this C&L inventory database also includes supplier notified classifications which must be treated with care and do not necessarily represent an accurate classification of hazard.

Young persons

16. HSE have a web page on [young persons at work](#).
17. INDG364(rev1), published 06/13 '[Young people and work experience](#) A brief guide to health and safety for employers'
18. Former HSE Guidance HSG165 'Young People at Work: A guide for employers', 2000, ISBN 0 7176 1889 7, now withdrawn but still provided on IHS Technical Indexes.

Women of childbearing age and new and expectant mothers

19. European Community Directive 92/85/EEC - [Pregnant Workers](#)

20. HSE have a web page on [new and expectant mothers](#)
21. '[New and expectant mothers who work](#): A brief guide to your health and safety' Leaflet INDG373 (Rev 2) HSE Books 2013
22. Former HSE Guidance HSG122 (Second edition), 'New and expectant mothers at work: A guide for employers', HSE Books 2002 ISBN 978 0 7176 2583 3 – withdrawn in 2012 after suggestions made it was 'gold-plating' in places and replaced by webpage at 16. Copy attached here as it is a very useful reference:



HSG122 NEW AND
EXPECTANT MOTHER

23. HSE risks for [New and expectant mothers](#).
24. Advisory Committee on Dangerous Pathogens publication '[Infection risks to new and expectant mothers in the workplace](#): a guide for employers' HSE Books 1997 ISBN 0 7176 1360 7
25. '[Working safely with ionising radiation](#): Guidance for expectant or breastfeeding mothers' Leaflet INDG334 HSE Books 2001
26. [Aircrew exposure to cosmic radiation](#): guidance material for the protection of aircrew from the effects of cosmic radiation

Guidance on other high risk workers not covered by this Procedure (e.g. Inexperienced, new and foreign workers; Returners to work after long periods of sickness)

27. HSE webpage '[New to the job](#)'
28. HSE Guidance for [protecting migrant workers](#) (may also be relevant to those whose english language abilities are limited)
29. HSE webpage on '[Managing sickness absence and return to work](#)'

Note: Persons with disability are not considered a 'high risk group', although they may have distinct needs that require specific assessment, but HSE guidance may be found at: [Health and safety for disabled people](#). Health and safety should not prevent disabled people finding or staying in employment or be used as a false excuse to justify discriminating against disabled workers.

APPENDIX 4: Substances assigned a 'Sk' notation ('may be absorbed through intact skin') by [HSE EH40](#)

Note: The Sk notations are not exhaustive and may change.

Acrylamide
Acrylonitrile
Allyl alcohol
2-Aminoethanol
Aniline
Benzene
Bromomethane
Butan-1-ol
Butan-2-one (methyl ethyl ketone)
2-Butoxyethanol
2-Butoxyethyl acetate
2-sec-Butylphenol
Carbon disulphide
Carbon tetrachloride
Chlorobenzene
2-Chloroethanol
Chloroform
1-Chloro-4-nitrobenzene
Chlorpyrifos (ISO)
Cumene
Cyanamide
Cyanides, except HCN, cyanogen and cyanogen chloride (as Cn)
Cyclohexanone
1,2-Dibromoethane(Ethylene dibromide)
1,2-Dichlorobenzene (ortho-dichlorobenzene)
1,1-Dichloroethane
1,2-Dichloroethane (Ethylene dichloride)
Dichloromethane
2,2'-Dichloro-4,4'-methylene dianiline(MbOCA)
Diethyl sulphate
N,N-Dimethylacetamide
N,N-Dimethylaniline
N,N-Dimethylformamide
Dimethyl sulphate
Dinitrobenzene
1,4-Dioxane
Endosulfan (ISO)
Ethane-1,2-diol particulate vapour
2-Ethoxyethanol
2-Ethoxyethyl acetate
Ethylbenzene
4-Ethylmorpholine
2-Furaldehyde (furfural)
Heptan-2-one
Heptan-3-one

Hexan-2-one
Hydrazine
Hydrogen cyanide
2-Hydroxypropyl acrylate
2,2'-Iminodi(ethylamine)
Iodomethane
Malathion (ISO)
Methacrylonitrile
Methanol
2-Methoxyethanol
2-(2-Methoxyethoxy) ethanol
2-Methoxyethyl acetate
(2-methoxymethylethoxy) propanol
1-Methoxypropan-2-ol
1-Methoxypropyl acetate
4,4'-Methylenedianiline
N-Methylaniline
n-Methyl-2-pyrrolidone
5-Methylhexan-2-one
4-Methylpentan-2-ol
4-Methylpentan-2-one
Monochloroacetic acid
Morpholine
Nickel and its inorganic compounds (except nickel tetracarbonyl): water-soluble nickel compounds (as Ni) nickel and water- insoluble nickel compounds (as Ni)
Nicotine
Nitrobenzene
Phenol
p-Phenylenediamine
Phorate (ISO)
Piperidine
Polychlorinated biphenyls (PCB)
Propan-1-ol
Resorcinol
Sodium azide
Sulfotep (ISO)
1,1,2,2-Tetrabromoethane
Tetrahydrofuran
Thallium, soluble compounds (as Tl)
Tin compounds, organic, except Cyhexatin (ISO),(as Sn)
Toluene
o-Toluidine
1,2,4-Trichlorobenzene
Trichloroethylene
Triethylamine
2,4,6-Trinitrotoluene
Xylene, o-,m-,p- or mixed isomers