| Doc. No. | **Class of information:** Forensic Science Service® (FSS®)Health and safety guidelines for pregnant workers | Release date: 30 Nov 2002 |
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| THE FORENSIC SCIENCE SERVICE® | **Short Description:** Health and safety guidelines for pregnant workers, covering the ongoing risk assessment of various hazards including chemical, biological, physical and physiological. Outlines steps to be taken in respect of making changes to working arrangements and conditions. | foi |

# HEALTH AND SAFETY GUIDELINES FOR PREGNANT WORKERS

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## INTRODUCTION

1.1 This booklet is aimed at providing information and guidance to new or expectant mothers working in the FSS, as well as those of child bearing age who may have children in the future.

1.2 The guidance in this document should be read in conjunction with Hazard Identification, Risk Assessment and Risk Management, Risk Management Guidance, and, The Control of Biological/Chemical Hazards.

## 2. LEGAL BACKGROUND

*2.1 The Management of Health and Safety at Work Regulations 1999*

2.1.1 The Management of Health and Safety at Work Regulations 1999 require employers to take particular account of risks to new or expectant mothers when assessing risks arising from work activities, irrespective of whether an employer is aware of new or expectant mothers in the workforce.

2.1.2 Hazards that should be considered are physical, biological and chemical agents, processes and working conditions. Many of these hazards are likely to be covered by specific health and safety regulations, for example the Control of Substances Hazardous to Health Regulations 1999.

2.1.3 As a general rule, an employer should initially consider eliminating the hazard or preventing exposure to risk. Where this is not feasible, the risk should be controlled. If there is still significant risk at work to the health and /or safety of the new or expectant mother or to the unborn child, then an employer must take the following steps to remove her from the risk:

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| Step 1 | temporarily adjust working conditions and/or hours of work; or if it is not reasonable to do so, or would not avoid the risk:- |
| Step 2 | offer suitable alternative work if any is available; or if that is not feasible:- |
| Step 3 | temporarily suspend her from work (special leave with full pay) for as long as necessary to protect her safety or health or that of her child. |

2.1.4 An employer need only take the above steps when they have been informed in writing that a worker is pregnant, has given birth within the previous six weeks or is breast-feeding.

2.1.5 Employers need to give additional special consideration to new or expectant mothers who work at night. Where a GP or midwife considers that night work could be detrimental to the health of the mother or unborn child, and they provide that opinion in writing, the employer must take the steps as outlined above.

2.1.6 An employer will need to keep the risk assessments for new or expectant mothers under review to ensure that they remain relevant to the developing condition.

## 3. RISK ASSESSMENT

*3.1 So what is a Risk Assessment?*

3.1.1 Everything we do, from getting up in the morning to going to bed again at night carries risk. Our lives are filled with hazards, most of which go unnoticed.

3.1.2 Throughout the course of the working day we do numerous risk assessments in our head. For example, crossing the road. We pick a safe place to stop at the kerb; look for approaching traffic; then wait until the road is clear before crossing.

3.1.3 We have just done a risk assessment. The hazards were identified and when those hazards were at a minimum, or even better, if some form of control was available, i.e.; a zebra or pelican crossing; we crossed, reducing our risk of being hurt to a minimum.

3.1.4 Workplace risk assessments follow the same lines of thought. The only difference here is that we have to formally record them and make them known to all those who could be affected.

3.1.5 It is true to say that most hazards will affect everyone to the same extent. There are some workplace hazards however, that have an increased risk for new or expectant mothers. They may not be labelled as such and might not even be thought of as a hazard in the normal scheme of things. However, it is important that managers with responsibility for female staff are aware of these particular hazards and how to reduce the risks arising from them. In the same way, it is also important that all female staff are aware of these hazards and take steps to protect themselves.

## 4. HAZARDOUS SUBSTANCES

*4.1 What are Hazardous Substances?*

4.1.1 A hazardous substance is something that has the potential to cause harm or damage.

4.1.2 There are many hazardous substances at work and they come in many shapes and forms. Very often they are substances that have been used in the workplace for many years. Some of these however, especially on the chemical side, should be reviewed with regard to whether they pose *additional* risks to pregnant workers.

*4.2 Chemical risks*

4.2.1 As a rule, the control measures already in place at work should be sufficient to reduce risks arising from the use of hazardous substances to the lowest levels. In the majority of cases, pregnant workers will be at no more risk than someone who is not pregnant.

4.2.2 There are however, a number of chemicals which have, or are suspected of having, the capacity to effect genetic material or impairing fertility.

Mutagen – A substance capable of effecting genetic cellular material so as to produce heritable abnormalities.

Toxic to Reproduction – A substance capable of impairing fertility in humans or causing development toxicity in humans.

Teratogen – A substance which produces physical defects in the foetus.

4.2.3 All chemicals must undergo classification and bear appropriate warning signs. Main properties, in particular those relating to toxicity, must be declared by law on Manufacturers' Safety Data Sheets to enable those purchasing, handling or using those chemicals to do so safely. This information is of great importance to employers and the self-employed when assessing the health and safety risks arising from their work.

4.2.4 The Control of Chemical Hazards document provides detailed advice and guidance on such matters, and when read in conjunction with RISK MANAGEMENT GUIDANCE, will provide valuable assistance when undertaking Risk Assessments of hazardous substances under the Control of Substances Hazardous to Health Regulations.

4.2.5 There is currently a lack of reliable evidence for the majority of industrial chemicals when looking at the causes of reproductive disorders. The FSS therefore, has adopted a precautionary policy with regard to dealing with chemicals that have been linked to possible reproductive disorders, especially where animal research has shown cause for concern.

4.2.6 Chemicals are not only used at work. Increasingly the home environment contains chemicals that are possible sources of danger. By law, all chemicals should be labelled; the following are examples of the hazard warning signs and risk phrases to look out for:

Mutagens – Categories 1 + 2

TOXIC symbol + R46 (may cause heritable genetic damage)

Mutagens – Category 3

HARMFUL symbol + R40 (possible risk of irreversible effects)

Substances Toxic to Reproduction – Categories 1 + 2

TOXIC symbol + R60 (may impair fertility) or
TOXIC symbol + R61 (may cause harm to the unborn child)

Substances Toxic to Reproduction – Category 3

HARMFUL symbol + R62 (possible risk of impaired fertility) or
HARMFUL symbol + R63 (possible risk of harm to the unborn child)

4.2.7 In general, Category 1 substances present proven hazardous properties and Category 2 substances are strongly suspected (usually on the basis of animal

research) to present similar risks. Those substances in Category 3 give cause for concern, although to date there is no strong evidence to warrant a higher classification.

4.2.8 Substances commonly used by the FSS, which have been classified as Mutagenic or Toxic to Reproduction, have been listed in Appendix 3a of FSS-CSG-03. These are:

| NAME | CLASSIFICATION RISK PHRASE |
|---|---|
| Acrylamide | Mutagen Cat 2 R46 |
| Carbon Disulphide | Toxic to Reproduction Cat 3 R63 |
| Dimethyl formamide | Toxic to Reproduction Cat 2 R61 |

4.2.9 In addition to these, there are a greater number which give cause for concern and therefore the policy is to reduce risks to as low as reasonably practicable and if at all possible, avoid use by pregnant workers. These are listed at Appendix 3b.

*4.3 Biological risks*

4.3.1 Biological hazards pose no more risk to pregnant workers than any other members of the workforce. Pregnancy does not make member of staff more susceptible to Hepatitis or HIV. What it does mean however is that the risk is effectively for two people (or more!) rather than just the one, as blood-borne viruses can be passed on in childbirth, either before or after birth, or through breastfeeding.

*4.4 Radiation*

4.4.1 Ionising and non-ionising radiation are physical agents that can cause additional concern for the unborn child. Radiation acts by directly and indirectly breaking down chemical bonds in biological material and causing damage to molecules. When the molecules damaged are proteins and DNA this can have a serious consequences.

4.4.2 Current evidence suggests that the cell nucleus is more radiosensitive than other parts of the cell. This is crucial to cell-division and cells are significantly more radiosensitive at times of cell-division than at other times.

4.4.3 The development of an adult human from an embryo requires repeated cell-division, with the number of cells dividing being greatest at the earlier stages of pregnancy. Thus there is increased radiosensitivity at this stage and employers need to take into account effects of radiation at abdomen height.

4.4.4 UK legislation includes dose limits of 20mSv per year for employees aged 18 or over who may be exposed to radiation at work. Employees who work with ionising radiation and are likely to be exposed to more than 6mSv per year are designated as classified persons.

4.4.5 In the case of pregnant women however, as soon as they give notification of pregnancy, the employer needs to ensure that the dose potential to the baby arising from work is minimised and unlikely to be more than 1mSv for the remainder of the pregnancy.

4.4.6 Hence, it is vital that where employees are exposed to radiation during the course of their work, pregnancy is declared to their line manager at the earliest opportunity to allow for appropriate monitoring to take place.

4.4.7 The use of CONTROLLED areas, together with other risk management controls, should ensure that no member of FSS staff is exposed to more than the regulatory dose limits, therefore, provided local rules are followed there should be no increased risk to mother or baby.

4.4.8 You should, of course, inform a doctor that you are pregnant should you be required to have a medical X-ray examination.

## 5. ERGONOMIC AND PHYSICAL HAZARDS

*5.1 Considering the working surroundings*

5.1.1 It is important to remember that pregnancy can take its toll on individual physical capabilities and capacity to work.

5.1.2 As the pregnancy progresses, changes in size and shape will mean changes in overall body posture which can affect usual working practise. Standing or sitting for any length of time may become uncomfortable and frequent changes in position may be required.

5.1.3 Stamina will be affected and it may be that towards the end of a pregnancy, the mother to be will not be able to maintain the same level of performance as she would normally. She will tire more quickly, need additional rest breaks and possibly not be able to continue carrying out all her normal tasks.

5.1.4 Bone density can be lowered at times of pregnancy and the risk of injury can increase.

*5.2 Display Screen Equipment*

5.2.1 The importance of correct seating and ergonomics is well established when assessing display screen equipment and workstations. However, when six or seven months pregnant, it may be that what suited an employee normally, is no longer suitable! The ability to sit comfortably whilst working at a computer may be affected by being unable to get close enough to the desk or even simply to sit up straight at all!

5.2.2 Reassessment of the workstation and the working patterns should be an ongoing process taking into account these changes.

5.2.3 Much has been said about radiation given off by computer equipment. The Health and Safety Executive and the National Radiological Protection Board have found no evidence to suggest that radiation from modern equipment is hazardous to either the mother or unborn child. The amount given off is a tiny fraction of that

to which we are exposed on a day to day basis simply walking around in the open air and does not significantly add to overall exposure.

*5.3 Manual Handling*

5.3.1 Manual handling, over and above general everyday items, should be avoided during pregnancy whenever possible.

5.3.2 Contrary to popular opinion, lifting and carrying should not be just avoided in latter stages of pregnancy when the mother to be is at her largest. The main reason for doing so at this stage is because of the strain on the body due to changes in posture and physical strength. (Also because it gets very difficult to bend over to pick things up!)

5.3.3 Risks to the unborn child through excessive lifting and physical effort are greatest in the early stages of pregnancy when the physical bond between embryo and mother is newest and weakest.

*5.4 Shift work*

5.4.1 Most women prefer to maintain their hours of work right up until the end of pregnancy to allow for more time off after the birth to spend with the new baby.

5.4.2 There may be occasions however, where the mother to be simply cannot continue to work long hours on a daily basis. This is particularly important to remember when working a shift pattern, especially one involving nights.

5.4.3 Continuous proactive monitoring of the pregnancy by medical staff will identify when the mother is struggling to find the energy to support both herself and the baby.

5.4.4 The employer has to similarly monitor the adequacy of the working arrangements with respect to pregnant workers and take action where necessary.

5.4.5 Where an employer receives notification in writing from a doctor or midwife that for medical reasons a pregnant worker should no longer work nights, then he is obliged to make alternative arrangements as described at the start of this booklet.

## 6. SUMMARY

6.1 All of these considerations may mean that alternative work or at least a change in working patterns may be required. It is important that the pregnant workers assessment reflects not just the work, but the physical surroundings and the individuality of the workers needs for a safe and comfortable pregnancy.

6.2 It is important to remember that provided the appropriate control measures identified via Risk Assessment are followed, risks will be reduced to the lowest possible level, with exposure being negligible and certainly well below recommended exposure standards.

6.3 Control measures include fume cupboards, biological safety cabinets, Safe Systems of Work, Basic Safe Laboratory Practice (as laid down in the Code of Safe Working Practice, particularly laboratory hygiene), and the use of personal protective equipment.

6.4 By using these control measures effectively, pregnant workers should be no more at risk than anyone else. Implicit in the guidance at the start of this booklet however, is the advice that, no matter how negligible the risk, the best course of action that can be taken is to avoid that risk altogether wherever practicable.


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| HSG 122 | NEW AND EXPECTANT MOTHERS AT WORK: A GUIDE FOR EMPLOYERS – HSE Books |
| L21 | MANAGEMENT OF HEALTH AND SAFETY AT WORK REGULATIONS 1999 – HSE Books |
| L121 | IONISING RADIATION REGULATIONS 1999 – HSE Books |
| INDG234 | WORKING SAFELY WITH IONISING RADIATION: GUIDELINES FOR EXPECTANT OR BREASTFEEDING MOTHERS |