

HEALTH AND SAFETY WHILST PREGNANT AND BREASTFEEDING

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Science Faculty's policy on pregnancy

It is Science Faculty's aim to ensure a good and safe working environment, so that a pregnant employee can safely continue working throughout her pregnancy until she goes on maternity leave.

Goals:

- to protect both the pregnant woman and the fetus
- that prospective parents should experience the Faculty as a safe workplace
- that pregnant women may stay at work for as long as possible
- to specify the options for pregnant women to organize their work with maximum consideration for their pregnancy
- to ensure uniform treatment of pregnant women
- to ensure a clear pregnancy policy

To ensure a safe workplace, the pregnant woman, colleagues and management enter into a partnership that aims to comply with the regulations for pregnant women at work. Work should be organized so that risks are eliminated — either through substituting dangerous substances with other substances, using safer tools, using extra personal protection or avoiding risky working methods. If it is not possible to change and revise procedures to ensure a safe pregnancy, the pregnant person should be moved to other work.

Because the first three months of pregnancy are the most vulnerable period, the employer should be informed of the pregnancy as early as possible. Employers obviously cannot live up to their responsibility to “protect pregnant and breastfeeding staff against dangers which are particularly serious for them” before they know of the pregnancy!

It is the pregnant woman's line manager, (i.e. her immediate boss, her “daglig leder”, probably her research manager or department head) who, in cooperation with Occupational Safety and Health (OSH) reps, is responsible for the pregnant woman's work being planned and carried out in safe conditions that do not pose a hazard to the pregnant person or the fetus. They can seek help and guidance from the OSH working group at SDU, from safety consultants, occupational health clinics, etc.

As soon as any manager is aware that an employee is pregnant or breastfeeding, an individual written Workplace Risk Assessment (WPA or arbejdspladsvurdering: APV) shall be produced, and tasks that may contain risk factors may not be undertaken before they are assessed and declared safe. If you work in a laboratory where it is not your line manager who advises on risk factors, then the laboratory supervisor should participate in the orientation process, but it is still the line manager who holds responsibility.

Pregnant women are also themselves responsible for working with their colleagues to create safe working conditions and for abiding by the Pregnancy at Work rules. The pregnant woman is asked to inform her line manager of her pregnancy as early as possible to facilitate planning - especially if she works in a laboratory.

The working environment should hopefully become so safe that special measures for women who are pregnant or breastfeeding are unnecessary. In all areas a general APV must be produced at least every 3 years. In this connection a manager assesses the work in collaboration with the relevant OSH working group / OSH committee, deciding whether the work is also safe for pregnant and nursing women. If problems for pregnant and breastfeeding women are discovered in any area, these problems need to be addressed.

To ensure a smooth and seamless return to work after maternity leave, a woman will receive briefings from her line manager and colleagues. Here she will be told what happened in the Department during her leave, what is happening now, current priorities etc. For some people, it will also be important to maintain close contact between work and employee during the maternity leave itself.

What the employer must ensure

According to the Danish Working Environment Authority (Arbejdstilsynet, AT) guidelines regarding pregnancy and breastfeeding while working, an employer — when he/she becomes aware that an employee is pregnant or breastfeeding — must ensure that a workplace assessment (APV) is carried out to ascertain whether there is a risk of employee exposure to substances which can pose a danger in this context.

Basically, the employer should always perform a risk assessment covering both the impact of the hazard and its expected level and duration. An employer's decision that a pregnant or breastfeeding woman may perform specific tasks must be taken in the context of her specific job. If the employer determines that a risk is present he/she must do the following to reduce the risk, in order of priority:

- Adjust or modify the physical workplace or, if this is not sufficient or possible
- Change the planning and organization of work or, if this is not sufficient or possible
- Move the woman to other tasks or, if this is not sufficient or possible
- Decide that the woman should not carry out the work concerned.

Source: Occupational exposure guidance for pregnant and lactating women
“Arbejdstilsynets vejledning for gravide og ammende” <http://www.at.dk/sw5813.asp>)

In NAT-SDU, an individual written pregnancy APV is produced. The checklist for this may be obtained from the “arbejds miljø” group.

Risk assessment — occupational medicine clinic

A workplace risk assessment for the pregnant woman will be prepared by her employer in cooperation with the “arbejdsmiljø” group. Risk assessment in relation to pregnancy can be complicated. If the employer cannot produce such an assessment, the pregnant woman’s own doctor may refer her to an occupational medicine “Arbejdsmedicin” clinic with experience in these cases.

The investigation is a medical interview of 30-60 mins duration. It is also the physician’s responsibility to investigate in detail the pregnant woman’s daily work and working environment, so that potential risks to the fetus or pregnancy are identified. The risk factors considered include physical factors (lifting, dragging, pushing, prolonged standing, extreme temperatures, radiation, etc.), chemical exposure and risk of infection.

After the interview it may be necessary for the physician to obtain further information, especially if chemicals are involved. When the risks of the pregnant woman’s job are known, the physician assesses whether the pregnant woman may continue as before or whether changes should be made.

Sources: Occupational medicine online information system (www.armoni.dk)
Inspectorate guidelines for pregnant and lactating women (<http://www.at.dk/sw5813.asp>)

Ergonomic influences

Physical effects

The pregnant woman shall take all reasonable measures to protect both herself and her child whilst at work, including:

- avoiding situations where there is increased risk of falling
- avoiding going up ladders
- from about 13 weeks, organising her work so that she can alternate between seated and walking/standing work
- from about 13 weeks, not lifting loads greater than 10-12 kg
- from 20 weeks, dragging and pushing of loads should be minimised
- from 25 weeks, not lifting more than 5-6 kg because of the increased distance to the load.

Vibrations

A pregnant woman must not expose herself to strong whole-body vibration. The main culprits are normally centrifuges, but other laboratory apparatus – such as large stirrers – may also pose a risk.

Audio — ultrasound

Sound in the audible range, ie. 20–18,000 Hz is of no particular risk to the fetus.

Pregnant women should avoid direct contact with ultrasound i.e. frequencies above about 18,000 Hz. Ultrasound is considered a risk factor, in that high levels can cause cell damage in biological tissue by direct contact e.g. through liquids or solid objects, but not through the air. The fetus is not damaged by the use of ultrasound machines if the pregnant woman avoids leaning up against the apparatus. This means in turn that the pregnant women often should not perform “sonnikering”.

Heat

A pregnant woman should avoid extreme heat (> 35 ° C).

The effect of chemicals

Everyone who works in a laboratory must be introduced to the Chemistry Institute's Registry of Chemical Safety Data system "KIROs". This system includes manufacturer's material safety data sheets and any special instructions for various chemicals. Similarly, everyone should be told where the list of drugs dangerous for pregnant and breastfeeding women is kept in their laboratory. Each institution / group can obtain a list from KIROs of the substances that require special precautions during pregnancy (see below).

According to the Danish Working Environment Authority (AT) manual: A.1.8. The organisation of the workplace for pregnant and lactating women (<http://www.at.dk/graphics/at/04-Regler/05-At-vejledninger/A-vejledninger/A-1-8-Gravide-og-ammende/Gravide-og-ammende.pdf>, in Danish only) the employer must make an assessment of the risks to the woman and her fetus when working with or exposed to drugs and materials with the following Risk phrases on labels:

- R39: Danger of very serious long-lasting effects
- R40: Limited evidence of a carcinogenic effect
- R45: May cause cancer
- R46: May cause heritable genetic damage
- R48: Danger of serious damage to health by prolonged exposure
- R49: May cause cancer by inhalation
- R60: May impair fertility
- R61: May cause harm to unborn child
- R62: Possible risk of impaired fertility
- R63: Possible risk of harm to the unborn child
- R64: May cause harm to the child during breastfeeding
- R68: Possible risk of longterm effects

Substances and materials that are labeled with other risk phrases may also affect the fetus. Therefore, the employer must also make an assessment when pregnant and nursing women work with or are exposed to the following:

- Carcinogenic substances and processes
- Endocrine disrupters
- Volatile substances and organic solvents
- Pesticides
- Heavy metals
- Anesthetic Gases
- Asphyxiant gases

Always read the safety data sheets for the individual substances you work with!

General safety rules must always be followed. Consider the concentration and the total amount of the substances you work with and for how long you are exposed to them.

Hazardous substances must, as far as possible, be substituted with other, less dangerous substances. You can reduce risk significantly by encapsulation of the substance or process and by using a fume extractor or hood. Always use appropriate personal protective equipment. It may also be possible to reduce risks by e.g purchasing ready-weighed quantities or ready-made solutions, or using granules rather than powder.

Rules for pregnant women working with radioactivity

All employees intending working with open radioactive sources must receive a thorough introduction to the work and a set of written instructions which they should read thoroughly. Women of reproductive age are also instructed by their line manager/mentor regarding the special rules that apply during pregnancy. Pregnant women should be made aware of the Board of Health's booklet "Guide to Radiological Protection when working with open radioactive sources", National Institute of Radiation Hygiene, 2005 (http://www.sst.dk/publ/Publ2005/SIS/Vejl_aabne_kilder/Vejl_aabne_kilder.pdf , in Danish only).

Women must give notice of pregnancy to their employer as early as possible. Then, together with their line manager, they estimate the amount of radiation that the unborn child will receive during pregnancy. If in doubt, the resulting written workplace risk assessment, (WPA or APV), may be submitted to the National Institute of Radiation Hygiene for final appraisal.

The work of a pregnant woman must be organised such that there is no risk of an unborn child receiving a radiation dose of over 1 mSv. It is not only the expected radiation dose which should be taken into account, but also an estimate of the risk of extra exposure resulting from accidents or unexpected events.

- If the total dose will certainly be less than 1 mSv:
A pregnant woman can continue with her previous tasks without monitoring her radiation exposure and without special measures to reduce this.
- If the dose is expected to be less than 1 mSv:
A pregnant woman can continue with her previous work, but special measures to reduce radiation exposure may be needed and the actual dose received must be monitored and recorded at least every month.
- If the dose is expected to be greater than 1 mSv:
A pregnant woman must be moved to another job with less likelihood of radiation exposure. If appropriate she should be monitored each month as above, or she may be moved to other work not involving exposure to ionizing radiation.

Pregnant women should not work with iodine-125, and should not normally access radioactive stock solutions.

Regulation 823/1997 on dose limits for ionizing radiation gives a detailed review of the logic behind radiation protection for the unborn child, in Danish. http://www.sst.dk/upload/bekendtg_823_ocr_001.pdf

Personal radiation meter:

If the pregnant woman continues with duties which under Annex 4 of Decree No 823/1997 require personal radiation meters to be worn, the meters must be read at least once per month.

Breastfeeding:

If a woman is breastfeeding in a period where she is working with radioactive substances, this must be taken into account. But if this work involves volumes less than the limits for S1-authorization, then there is usually no reason why a woman should be moved to other work.

Biological materials

The current rules for laboratory classification must always be followed, and thorough instruction given by a supervisor before work commences.

Avoid working with research animals

Experimental animals may pose a risk to the fetus, in that they can carry a protozoan, *Toxoplasma gondii*, which causes an illness which is normally minor and self-limiting in people but can have serious or even fatal effects on a fetus whose mother first contracts the disease during pregnancy. Many people are already carriers — it is recommended that you ask your doctor for a blood test to determine if you carry antibodies the parasite. The animals can also be tested. If you carry the antibody, then work can continue as before, otherwise you must move to other work.

Avoid working with poultry / birds

In addition, pregnant women should not work with birds / poultry because of the danger of Ornithosis (otherwise known as Psittacosis or parrot disease).

Both ornithosis and toxoplasmosis can cause birth defects.

Do not work with biological agents especially hazardous for pregnant women

For example, *Listeria* can give meningitis.

Patient specimens

Be careful when working with blood and tissue samples; all medical specimens should be considered potentially infectious and handled accordingly. A vaccination against infectious hepatitis is recommended before beginning work involving medical specimens and certainly if you may become pregnant.

If you want to know more about the subject, you can read the Danish “Notice about biological agents in the workplace” from the Danish Working Environment Authority (<http://www.at.dk/sw12846.asp>)

References

All in Danish...

The Danish Working Environment Authority (www.at.dk)

Occupational exposure guidance for pregnant and lactating women (<http://www.at.dk/sw5813.asp>)

Occupational medicine online Information System (www.armoni.dk)

Ordinance 823/1997 on the dose limits for ionizing radiation (http://www.sst.dk/upload/bekendtg_823_ocr_001.pdf)

Information regarding biological agents in the workplace,
Danish Working Environment Authority publication (<http://www.at.dk/sw12846.asp>)

Pregnant and Employed - Portal (<http://www.gravidmedjob.dk/>)

Industrial Working Environment Council (<http://www.i-bar.dk/>)

Chemistry Institute's Registry of Chemical Safety data (www.kiros.dk)

Board of Health's guidance on radiation protection when working with open radioactive sources, 2005
(http://www.sst.dk/publ/Publ2005/SIS/Vejl_aabne_kilder/Vejl_aabne_kilder.pdf)