Reproductive Hazards

Substances or agents that affect the reproductive health of women or men or the ability of couples to have healthy children are called reproductive hazards. Radiation, some chemicals, certain drugs (legal and illegal), cigarettes, some viruses and bacteria, and alcohol are examples of reproductive hazards. This information focuses on the reproductive hazards in the academic and research setting.

Women

The causes of most reproductive health problems are still unknown. Many of these problems – infertility, miscarriage, low birth weight – are fairly common occurrences and affect working and nonworking women. A reproductive hazard could cause one or more health effects, depending on when the woman is exposed. For example, exposure to harmful substances during the first 3 months of pregnancy might cause birth defects or a miscarriage. During the last 6 months of pregnancy, exposure to reproductive hazards could slow the growth of the fetus, affect the development of its brain, or cause premature labor. Reproductive hazards may not affect every worker or every pregnancy.

Reproductive Hazards for Women

<table>
<thead>
<tr>
<th>Agent*</th>
<th>Observed Effects</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer Treatment Drugs</td>
<td>Infertility, miscarriage, birth defects, low birth weight</td>
<td>Safe handling techniques including use of skin barriers, eye protection.</td>
</tr>
<tr>
<td>Ionizing Radiation (X-rays and gamma rays)</td>
<td>Infertility, miscarriage, birth defects, low birth weight, developmental disorders, childhood diseases</td>
<td>Use of area and personal shielding (lead aprons)</td>
</tr>
<tr>
<td>Anesthetic Gases, Halothane and NO2</td>
<td>Reduced fertility, spontaneous abortions</td>
<td>Use of anesthetic gas scavenging units, badge and area monitoring to detect chronic leaks</td>
</tr>
</tbody>
</table>
Toxoplasmosis*  Miscarriage, birth defects, developmental disorders
Good hygiene practices such as hand washing, avoiding eating or handling food in animal/research areas. Immediate clean up of cat feces

Listeria and Campylobacter  Risk of spontaneous fetal loss, chorioamnionitis
Good hygiene practices such as hand washing. Avoid eating or handling food when in animal/research areas

* You should be aware of the risk involved with all chemical, radiological, and biological agents you encounter at CSU. Read ALL MSDS sheets for chemicals. Biological agent fact sheet can be found on the Biosafety web page at www.ehs.colostate.edu
** Toxoplasmosis: because cats are frequently used in research and teaching, it is important for pregnant women to be aware of this biological hazard. The protozoan, Toxoplasma gondii has its complete life cycle only in cats, which are the only source of the infective oocysts. It takes at least 24 hours for oocysts shed in feces to become infective, so removal of fresh feces daily reduces the risks of acquiring infection. Toxoplamsosis in people usually resembles mild flu-like symptoms.

Men

Although studies have shown that work place exposures affect the reproductive system in some men, these effects do not necessarily occur in every worker. Whether individuals are affected depends on how much of the hazard they are exposed to, how long they are exposed, how they are exposed and other personal factors. Workplace substances that affect male workers may also indirectly cause harm to their families. Certain substances unintentionally brought home by a worker may affect a woman’s reproductive system or the health of an unborn child.

Reproductive Hazards for Men

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<th>Observed Effects</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer Treatment Drugs</td>
<td>Infertility, low sperm count, abnormal sperm shaped</td>
<td>Safe handling techniques including use of skin barriers, eye protection.</td>
</tr>
<tr>
<td>Ionizing Radiation (X-rays and gamma rays)</td>
<td>Infertility, low sperm count, abnormal sperm shape</td>
<td>Use of area and personal shielding (lead aprons)</td>
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### Anesthetic Gases, Halothane and NO₂

- **None known for male reproductive health**
- **Use of anesthetic gas scavenging units, badge and area monitoring to detect chronic leaks**

### Infectious Agents

- **Second hand exposure to pregnant partner or unborn child**
- **Good hygiene practices such as hand washing, avoiding eating or handling food in animal/research areas.**

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**How to be protected from Reproductive Hazards:**

- Store chemicals in sealed containers when they are not in use.
- Wash hands before eating, drinking or smoking.
- Avoid skin contact with chemicals.
- If chemicals contact skin, follow directions for washing provided in the MSDS.
- Become familiar with the potential reproductive hazards in your workplace.
- To prevent home contamination:
  - Change out of contaminated clothing and wash with soap and water before going home.
  - Store street clothes in a separate area of the workplace to prevent contamination.
  - Wash work clothing separately from other laundry (at work if possible).
  - Avoid bringing contaminated clothing or other objects home.
- Participate in all safety and health education, training, and monitoring programs offered by your employer.
- Learn about proper work practices, engineering controls, and personal protective equipment (gloves, respirators, and personal protective clothing) that can be used to reduce exposures to hazardous substances.
- Follow the safety and health work practices and procedures implemented by your employer to prevent exposures to reproductive hazards in the workplace.
- Seek medical attention promptly. If you are injured or have an on-the-job exposure promptly report the accident to your supervisor, even if it seems relatively minor. If you have concerns about your exposures at work you can contact Environmental Health Services.
- Tell your physician about the type of work you do. If you are planning a family, tell your physician about the type of work you do, and about the potential hazards in your workplace.
References

http://www.ehs.iastate.edu/publications/factsheets/CarcReproTerat.pdf


www.ucdavis.edu