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Staying safe

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Environmental risks and pregnancy

There are more than 83,000 chemicals used in homes and businesses in this country, yet we have little information on how most of them may affect you and your baby during pregnancy. A small number of chemicals are harmful to your unborn baby. Most of these are found in the workplace, but certain pollutants that damage the air and water, as well as chemicals used at home, may pose a risk during pregnancy.

During pregnancy, you can inhale these chemicals, ingest them in food or drink, or, in some cases, absorb them through the skin. You have to come in contact with large amounts of dangerous chemicals for a long time in order for them to harm your baby.

Most workplaces take steps to limit worker contact with chemicals. However, we don't really know how most chemicals may affect your health. Talk to your health care provider about chemicals used in your workplace before pregnancy if possible. If you're thinking of getting pregnant, you may need extra protection at work or a change in your job duties to stay safe. This is especially important if you work in industries such as agriculture, manufacturing, dry cleaning, printing, pharmaceutical manufacturing and health care. You also can take steps to protect yourself and your baby from pollutants and chemicals used at home.

What are the risks of lead exposure during pregnancy?

Lead is a metal that was used for many years in gasoline and house paint. Although lead still can be found in the environment, the amounts have decreased greatly since the 1970s when the U.S. Environmental Protection Agency (EPA) banned its use in these products. Lead poses health risks for everyone, but young children and unborn babies are at greatest risk. If you come in contact with high levels of lead during pregnancy, your baby may be at risk for miscarriage, preterm birth, low birthweight and developmental delays.

If you live in an older home, you may be exposed to lead in deteriorating lead-based paint. Many homes built before 1978 were painted with lead-based paint. As long as paint is not crumbling or peeling, it poses little risk. However, crumbling paint can make lead dust when the surface is touched, especially when it is sanded or scraped.

If lead-based paint needs to be removed from your home, stay away until the removal is complete. Only experts should remove leaded paint. The [EPA](#) has information about lead and lead removal.

You also can be exposed to significant amounts of lead in drinking water if your home has lead pipes, lead solder on copper pipes or brass faucets. Contact your local health department or water supplier to find out how to get pipes tested for lead. If you use well water, have your water tested regularly for lead and other contaminants. The EPA Safe Drinking Water Hotline at (800) 426-4791 has more information on home water testing.

The EPA recommends running water for 15 to 30 seconds before using it for drinking or cooking to help reduce lead levels. Water from the cold water pipe contains less lead than water from the hot pipe, so use cold water for drinking, cooking and preparing baby formula. Many home filters don't remove lead, so look for a filter that is certified by <http://www.nsf.org/> to remove lead.

Other possible sources of lead in the home include:

- Lead crystal glassware and some ceramic dishes. Don't use these items. Ceramics you buy in a store are generally safer than those made by craftspeople.
- Some arts and crafts supplies, including oil paints, ceramic glazes and stained glass materials. Use lead-free acrylic or watercolor paints during pregnancy and breastfeeding.
- Vinyl miniblinds imported from other countries.
- Old painted toys and some new toys and jewelry. The [U.S. Consumer Product Safety Commission](#) has information on recalls.
- Cosmetics containing surma or kohl.
- Lead solder in cans of food imported from other countries.
- Some candies imported from Mexico.
- Certain folk remedies for upset stomach, including those containing greta and azarcon.

Many lipsticks contain traces of lead. A 2009 study by the U.S. Food and Drug Administration (FDA) found small amounts of lead in all brands of lipstick tested. The FDA doesn't consider these lead levels to be a safety concern and

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didn't release the names of any of the lipstick brands. The Campaign for Safe Cosmetics conducted a similar study in 2007. You can get more information from <http://www.safecosmetics.org/>.

If you work in a field that puts you in contact with large amounts of lead on the job (such as painters, plumbers and those working in smelters, auto repair shops, battery manufacturing plants or certain types of construction), change your clothing (including shoes) and shower at work to avoid bringing lead into the home. Wash contaminated clothing at work or wash it at home separately from the rest of your family's clothing.

Does mercury exposure pose a risk in pregnancy?

Mercury is a metal that is found in the environment. Elemental (pure) mercury and methylmercury are two forms of mercury that may pose risks in pregnancy.

Elemental mercury is used in thermometers, dental fillings, fluorescent light bulbs and some batteries. Dental amalgam is a silver-colored material used to fill cavities in teeth. It contains elemental mercury, silver and other metals. Amalgam fillings can release small amounts of mercury vapor that can be inhaled. The FDA considers amalgam safe in adults and children over age 6. However, there are few studies on the safety of amalgam in pregnant women and their babies. Some countries (Norway, Sweden and Denmark) recommend that dentists not use dental amalgam in pregnant women. If you're concerned about the use of amalgam, talk with your dentist.

If you work in a dental office or in an industry that uses mercury to make products (including electrical, chemical and mining industries), talk with your health care provider and take all recommended precautions.

Methylmercury is formed when mercury in the air is deposited in water. The mercury comes from natural sources (such as volcanoes) and man-made sources (such as burning coal and other industrial pollution). Fish that swim in these waters often have methylmercury in their tissues. People come in contact with the mercury when they eat these fish. Eating fish is the main source of methylmercury exposure in humans.

Trace amounts of mercury are present in many types of fish, but it's mostly found in certain large fish. For this reason, the FDA and the EPA advise pregnant women not to eat swordfish, shark, king mackerel and tilefish.

Limit of the amount albacore (white) tuna you eat to 6 ounces or less a week. All of these fish may contain enough mercury to harm your unborn baby's developing nervous system, sometimes leading to learning disabilities.

What other metals pose a risk in pregnancy?

Arsenic may be harmful to pregnancy. It enters the environment through natural sources (weathering of rock and forest fires) and man-made sources (mining and electronics manufacturing).

Although arsenic is a well-known poison, the small amounts normally found in the environment are unlikely to harm an unborn baby.

However, you may come in contact with higher levels of arsenic that may pose an increased risk of pregnancy problems, including miscarriage and birth defects. Long-term exposure in children may result in lowered IQ. You may be exposed to higher levels of arsenic if you:

- Work or live near metal smelters.
- Live in agricultural areas where arsenic fertilizers (now banned in the United States) were used on crops.
- Live near hazardous waste sites or incinerators.
- Drink well water containing high levels of arsenic (this can occur in the places described above and in other areas, including parts of New England and the Midwest, that have naturally high levels of arsenic in rock).

If you live in areas that may have high arsenic levels, you can protect yourself by:

- Limiting contact with soil.
- Getting well water tested for arsenic to check if it's safe to drink or drinking bottled water.
- Community water suppliers already test for arsenic. The [EPA](#) has more information about testing water for arsenic.
- Checking decks and outdoor playsets made before 2003. Before that time, arsenic was used in these products. The EPA recommends applying a penetrating stain or sealant to these items once every year or two to reduce your chances of coming in contact with arsenic.
- Changing out of work clothing and shoes exposed to arsenic before going home.

Can pesticides harm an unborn baby?

There is little proof that coming in contact with pest-control products (insecticides) at levels commonly used at home poses a risk to your unborn baby. However, all insecticides are to some extent poisonous. Some studies suggest that coming in contact with large amounts of pesticides may lead to miscarriage, preterm birth, low birthweight, birth defects and learning problems. If you do agricultural work or live in agricultural areas, you may be more likely to come in contact with high levels of pesticides than other women. Avoid pesticides whenever possible.

You can reduce your contact with pesticides by using alternatives like sticky traps. If your home or property needs pesticide treatment:

- Have someone else apply the chemicals. Leave the area for the amount of time listed on the package instructions.
- Remove food, dishes and utensils from the area before the pesticide is applied. Afterward, have someone open the windows and wash off all surfaces on which food is prepared.
- Close all windows and turn off air conditioning when pesticides are used outdoors. This helps keep fumes from coming into the house.
- Wear rubber gloves when gardening to prevent skin contact with pesticides.

You may be concerned about the safety of insect repellants during pregnancy. The insect repellent, DEET (diethyltoluamide) is very effective at keeping insects, such as mosquitoes and ticks, from biting. Preventing insect bites is important during pregnancy because infections from mosquitoes and ticks, such as West Nile virus and Lyme disease, may be harmful. The CDC doesn't recommend any special precautions for pregnant women using products with DEET if you follow label directions. Try to stay indoors during dawn and dusk, when mosquitoes are most likely to bite, and wear long pants and long sleeves outside. Taking these precautions means you're less likely to need DEET.

What are solvents?

Solvents are chemicals that dissolve other substances. Solvents include alcohols, degreasers, paint thinners and stain and varnish removers. Lacquers, silk-screening inks and paints also contain these chemicals. A number of studies suggest that coming in contact with solvents at work may increase the risk of birth defects. A 1999 Canadian study found that women who were exposed to solvents on the job during their first trimester of pregnancy were 13 times more likely than unexposed women to have a baby with a major birth defect, like spina bifida (open spine), clubfoot, heart defects and deafness. The women in the study included factory workers, laboratory technicians, artists, graphic designers and printing industry workers.

Other studies have found that women workers in semiconductor plants exposed to high levels of solvents called glycol ethers were more likely than unexposed women to miscarry. Glycol ethers also are used in jobs that involve photography, dyes and silkscreen printing.

If you work with solvents, even if you do arts and crafts at home, minimize your exposure by:

- Making sure your workplace is well ventilated
- Wearing appropriate protective clothing, including gloves and a face mask
- Avoiding meals or drinking in your work area

To learn more about the chemicals you work with, ask your employer for their safety information sheets. These sheets, made by chemical manufacturers, include information about possible dangers of specific chemicals and recommended safety tips for people who work with them. The [MSDSearch](#) has a list of these sheets. You also can visit the [National Institute for Occupational Safety and Health](#).

Can air pollution harm an unborn baby?

Most women who live in areas with higher-than-average levels of air pollution have healthy babies. However, studies from the United States and other countries suggest that if you come into contact with high levels of certain air pollutants, you may be slightly more likely than other women to have a premature or small baby. These air pollutants include polycyclic aromatic hydrocarbons (PAH) and small particle pollution, both of which come from car exhaust and industrial sources. Another study suggests that children exposed to high PAH levels before birth may score more than 4 points lower on IQ tests than children exposed to lower levels.

Air quality in many areas of the country has improved since the first Clean Air Act was passed in 1970. However, some pregnant women, including those living in large cities, are still exposed to unhealthy levels of pollution. You can avoid pollution by limiting outdoor activities, especially exercise, on days when there's poor air quality.

Do household cleaning products pose a risk in pregnancy?

Although some household cleansers contain solvents, there are many safe alternatives. Read labels carefully and don't use products (such as some oven cleaners) whose labels state that they are toxic.

Products that contain ammonia or chlorine are unlikely to harm your unborn baby, although their odors may cause you nausea. Open windows and doors and wear rubber gloves when using these products. Never mix ammonia and chlorine products because the combination produces fumes that are dangerous for anyone.

If you're worried about household cleansers or bothered by their odors, you can use safe, natural products instead. For example, use baking soda as a powdered cleanser to scrub greasy areas, pots and pans, sinks, tubs and ovens. You also can use a mixture of vinegar and water to clean many surfaces, such as countertops.

Do chemicals in plastics pose a risk to the fetus or infant?

Possibly. Plastics are made from a number of chemicals, including phthalates and bisphenol A (BPA). Phthalates make plastic soft and flexible. They are used in toys, medical devices (such as tubing), shampoos, cosmetics and food packaging. BPA makes plastics clear and strong. It is used in baby bottles, food containers (to line metal food cans) and water bottles.

Recent research suggests that exposure to phthalates before birth may lead to subtle defects in male genitals. Phthalates also may pose a risk after birth. In 2006, the National Toxicology Program (NTP) concluded that one type of phthalate used in plastic medical tubing could pose a risk to the reproductive systems of baby boys. Many hospitals have removed such products from newborn nurseries. In 2008, the NTP also expressed concern about the effects of BPA on the brain, behavior and prostate gland in fetuses, infants and children. Other studies suggest that high BPA levels may play a role in some miscarriages.

In 2009, the United States banned the use of some phthalates from toys and child care articles, including any product children age 3 and younger use for sleeping, feeding, sucking or teething. Some manufacturers have discontinued use of BPA in baby bottles.

Studies are continuing on possible health effects of these chemicals. Until there are better answers, you can take these steps to limit your exposure:

- Don't use plastic containers with the number 7 or the letters PC (polycarbonate) in the triangle found on the bottom.
- Limit use of canned food.
- Don't microwave food in plastic containers or put plastics in the dishwasher.

You can limit your baby's exposure by:

- Breastfeeding your baby so they don't have to use baby bottles.
- Using baby bottles made of glass, polypropylene or polyethylene.
- Giving your baby plastic toys made after February 2009 or labeled phthalate-free.
- Limiting use of baby lotions or powders that contain phthalates.

Does the March of Dimes support research on environmental risks in pregnancy?

The March of Dimes has long supported studies working to find environmental factors that may pose a risk in pregnancy. One example is research on how coming in contact with estrogen-like chemicals in the environment affects an unborn baby. Other studies supported by the March of Dimes are working to better understand how genes and environmental factors may interact and lead to birth defects and premature birth.

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See also:

<http://www.otispregnancy.org/>

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