

NOTE: Refer to module outline for goal, objectives, class outline, equipment, resources required and references.

If this is the first class:

- Welcome participants to class.
- Housekeeping: bathroom, breaks, length of session, ground rules/respect.
- Have each couple or individual pair up with another couple or individual and introduce themselves to each other. (Consider including name, due date, HCP, something they are looking forward to, something they are nervous about and/or anything they would like to share about the pregnancy). Then have the pairs or individuals introduce each other to the rest of the group.
- Provide the choice of prenatal handout (depending on your organization, this may be Healthy Beginnings or A Healthy Start for Baby and Me) for each expectant mother.
- Provide a list of community resources.
- It is best to advise participants during the first session that you have a duty to report any concerns about the safety or well-being of a child (including the witnessing of abuse of the mother) to child protective services. (This is only applicable if there are children in the home already.)

Suggested Activity: Ask if participants have questions regarding exposures to harmful substances.

Materials: Flipchart and markers

Instructions: List questions of a flipchart and ensure they have been covered by the end of the session.



- Many things, such as smoking, exposure to cigarette smoke,-drinking alcohol or using cannabis can have harmful effects on our bodies, our health and the health of a developing fetus and child.
- A precautionary approach is advised for women during pregnancy. This is because we are
 not sure, the science is still incomplete, and many effects have not been or cannot be
 measured, regarding the effects of exposure to certain everyday substances in our homes,
 workplaces and outdoor environment.
- The developing fetus, infants and young children are more vulnerable to the negative impacts from exposure to certain substances. The developing fetus is the most vulnerable and at greatest risk. Infants and young children are also at risk because their bodies are still developing and they are less able to process and eliminate various substances.
- Pregnant women do many things to promote healthy fetal development, for example, making sure they eat well, exercise and get adequate rest, as well as avoiding tobacco smoke, alcohol and non-prescription drugs, and reducing stress. Taking precautions to avoid harmful environmental substances during pregnancy can also limit potential risks to the fetus.

(Source: Playing It Safe: Service Provider Strategies to Avoid Environmental Risks to Preconception, Prenatal and Child Health.

http://beststart.org/resources/env_action/pdf/envirostrategies_rev.pdf)



- Pregnancy provides a unique opportunity for making positive lifestyle choices.
 Quitting smoking and reducing the exposure to second hand smoke is a healthy choice for you and your baby.
- Cigarette smoke contains thousands of chemicals such as carbon monoxide, nicotine
 and formaldehyde which can affect the development of both the baby and the
 placenta. When the pregnant woman smokes the levels of nicotine and carbon
 monoxide rise and the levels of oxygen fall. Oxygen is needed for the body to work
 properly and for the baby to grow.
- Smoking is harmful to pregnant women and their babies. Smoking can cause
 complications during pregnancy. It can cause babies to be born too soon or too small.
 When babies are born too soon or too small, they are more likely to have serious
 health problems. The risk of Sudden Infant Death Syndrome is greater in babies
 whose mothers smoked during pregnancy.
- The more you smoke the greater the risk to your health and your baby's health.
 Stopping smoking before pregnancy, or as early as possible in pregnancy, will help you and your baby. Not smoking at all while you are pregnant is best for your health and your baby's health. If you are pregnant, stop smoking if you can. If you can't quit, consider smoking fewer cigarettes to reduce the harm to you and your baby.

(Continued next slide)



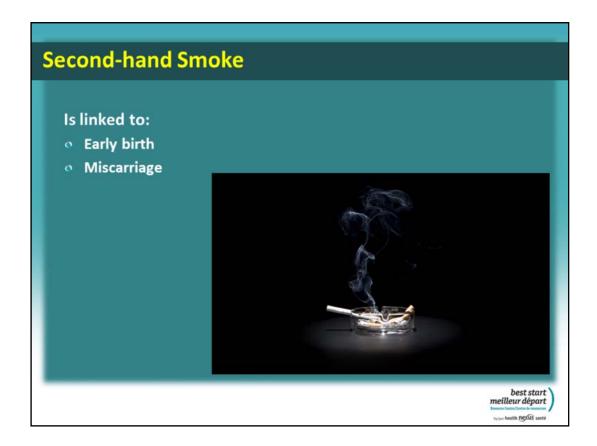
(continued from previous slide)

Benefits of quitting include:

- A healthier birth weight.
- A reduced risk of cancers and heart disease for both mother and baby.
- A lower risk of Sudden Infant Death Syndrome (SIDS), respiratory health concerns such as asthma, allergies, and middle ear infections for baby.
- Increased energy and fewer health problems for mother.
- A good supply of breast milk (women who smoke may produce up to 30% less breast milk).
- A way to spend less money.

Quitting is a process. It is helpful to have support when trying to quit smoking. Pregnant women/couples can ask for help from family or friends and Invite them to quit as well if they smoke. If pregnant women have trouble quitting, or feel the urge to smoke again after having quit, they can talk to their health care provider. There are services for women, and their families, who want to stop smoking (see the section Learn more about where to get help). For additional information visit www.smokershelpline.ca

Pregnant women should talk with their health care provider before using nicotine replacement therapy (NRT) products. There are many products, such as lozenges, gum, inhalers, and patches contain nicotine that may help with quitting. There are groups, telephone helplines, online supports, and one-on-one services for pregnant women to help quit smoking. If these do not work for you, a health care provider can help decide if nicotine replacement therapy is right. <u>E-cigarettes</u> may cause health problems and have not been tested for safety during pregnancy.



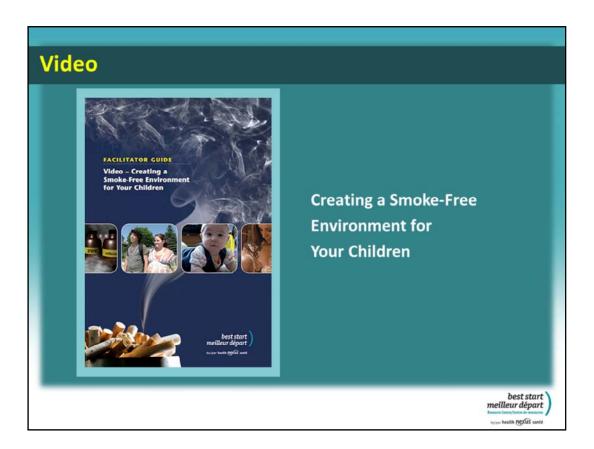
- Second-hand smoke is a mixture of exhaled smoke and smoke that comes from the tip of a burning cigarette, pipe, or cigar. Scientists have found more than 4,000 chemicals in second-hand smoke. They include nicotine, carbon monoxide, ammonia, formaldehyde, dioxins, and furan. Most of them come from the burning of tobacco.
- When we compare the smoke inhaled by the person who is smoking to second-hand smoke, we find that second-hand smoke contains higher levels of certain harmful chemicals. This is because second-hand smoke occurs at a lower burning temperature.
- Chemicals in tobacco smoke can move from the mother's blood into the bloodstream of the growing baby.
- Nicotine raises the fetal heart rate and slows development of the lungs and respiratory tract.
- Carbon monoxide can reduce the baby's oxygen supply causing a lower birth weight.
- Second-hand smoke is linked to early birth (premature babies) and miscarriage.
- In the last trimester, the unborn baby starts to get ready to breathe after birth. It's normal for the chest muscles to move in and out (as if the baby were breathing) while still in the womb. These practice respirations can stop for long periods of time just a few seconds after the baby is exposed to second-hand smoke.
- Third-hand smoke is made up of the chemicals that remain on clothing, skin, carpets, furniture, and other items that are exposed to smoke.



Breastfeeding is the best way to feed babies, even if the mother smokes. The benefits of breastfeeding outweigh the harmful effects of tobacco on the baby's health. Breastfeeding can also be relaxing for the mother.

One of the most important things woman can do is breastfeed their baby. To protect the baby from the harmful effects of smoking, women and their partners can also:

- Have a smoke-free home and a smoke-free car.
- Cut down on the number of cigarettes that they smoke.
- Change outer clothing before breastfeeding if they have smoked.
- Wash their hands before breastfeeding if they have smoked.



Video

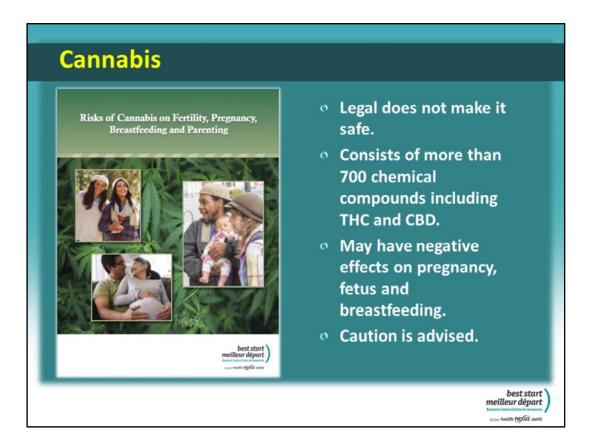
Show the video *Creating a Smoke-Free Environment for Your Children* and answer questions as needed.

Creating a Smoke-Free Environment for the pregnant woman and her baby

Second-hand and third-hand smoke are harmful, especially for pregnant women and young children. Smoke-free spaces are the healthy choice for pregnant women, parents, babies, and children. A smoke-free home and car can decrease the risk of a baby dying from Sudden Infant Death Syndrome (SIDS). Baby will be less likely to have ear infections and breathing problems (such as bronchitis or asthma) if their parents avoid second-hand smoke.

Here are some ways to lower the amount of second-hand and third-hand smoke for you and your baby:

- Make a rule that smoking is not allowed in your home or car.
- Ask people not to smoke around pregnant women, babies, and children.
- Keep doors and windows closed when someone is smoking outside.
- Ask people who smoke to wash their hands before holding your baby.
- Ask people who smoke to change their outer clothing after smoking.



Legal use of cannabis doesn't make it safe. Using cannabis can have effects on health, learning, relationships, fertility, pregnancy and children.

There are more than 700 chemical compounds contained in the cannabis plant. Tetrahydrocannabinol (THC) is the chemical that makes people feel high. Cannabidiol (CBD) is known for its medicinal qualities for pain, inflammation and anxiety. In contrast to THC, CBD does not make you feel as high.

Effects on pregnancy:

Some studies have shown that cannabis use may have some negative effects on pregnancy. For heavy cannabis users, and those who also use tobacco, cannabis may increase the risk of preterm birth. Cannabis is often used with other drugs. Alcohol and tobacco have very negative effects on pregnancy, and on the health of the fetus. Some women report benefits from using cannabis to treat morning sickness during pregnancy. However, due to potential harms to the pregnancy, fetus and the mother, safer treatments should be discussed with a health care provider.

Effects on the fetus:

Cannabis smoke contains many of the same harmful chemicals found in cigarette smoke. Smoking cannabis can reduce the supply of oxygen and nutrients to the fetus. Some studies show effects on the newborn such as lower birth weight, lower alertness and slower growth of the new baby. Cannabis has not been linked to birth defects. However, the effects on the developing brain may be lasting, as the baby grows to an adolescent and adult.

Effects on breastfeeding:

When a breastfeeding mother uses cannabis, THC passes into the breast milk and is taken into a baby's fat cells and brain. It can be stored for weeks. More studies are required to determine the true effect of cannabis exposure when breastfeeding. Breastfeeding is still the healthiest choice for your baby.



The safest choice is to drink no alcohol at all if you are pregnant or planning a pregnancy.

If a pregnant woman drinks alcohol, the alcohol also enters her baby's bloodstream. This may lead to physical, learning and behaviour problems for the baby.

It is best not to drink alcohol during pregnancy because:

- There is no known safe amount of alcohol during pregnancy.
- There is no safe kind of alcohol during pregnancy.
- There is no safe time for alcohol use in pregnancy.
- The more alcohol a woman drinks, the greater the risks to her unborn baby.

If a pregnant woman drank alcohol before she knew she was pregnant, she can talk to her health care provider or call Motherisk at 1-877-327-4346.

Pregnant women can ask for help if they want to quit drinking.

Partners, family members, or friends can be a great source of support. Health care providers can help. There are services for pregnant women, and their families, who need help to stop drinking (see the section: Learn more about where to get help).

Call the Drug and Alcohol Helpline at 1-800-565-8603 for free, confidential information about alcohol and drug addiction services in Ontario.



There are many non-alcoholic alternatives to enjoy during pregnancy that are tasty and refreshing. The *Mocktails for Moms* pamphlet has some excellent suggestions for making delicious drinks.

Suggested activity: Mocktails for Mom

Purpose: To show that there are non-alcoholic drinks that can be drunk instead of alcoholic drinks.

Materials: A pitcher of a non-alcoholic beverage using one of the suggested recipes in the *Mocktails for Moms* pamphlet, prepared before class. Glasses.

Instructions: Offer participants a sample of the non-alcoholic beverage and a copy of the pamphlet *Mocktails for Moms* while you continue to facilitate the class or serve at break time.



The benefits of breastfeeding outweigh the risks of occasional, light alcohol consumption.

When breastfeeding women drink alcohol, it is transferred to their breast milk. Alcohol in breast milk can have effects on their baby. If women would like to decrease the amount of alcohol their baby receives they can:

- Drink alcohol right after breastfeeding, not before breastfeeding.
- Limit the amount they drink to one or two standard drinks per occasion. A standard drink is:

Beer (5%) - 341 mL (12 oz).

Wine (12%) - 142 mL (5 oz).

Spirits (40%) – 43 mL (1.5 oz).

Allow enough time for the alcohol to be eliminated from their body before the next feeding.
 On average, it takes up to two hours for one drink to be eliminated.



Pregnant women can talk to their health care provider about medications they are taking, are about to take, or considering stopping during their pregnancy or while breastfeeding.

Medications may reach a baby through the placenta or through breast milk. The potential harmful effects of medication on pregnant women or babies are not always known or studied. It is important to discuss any medicines you are taking with your health care provider while planning a pregnancy or as soon as possible. Pregnant women can ask their health care provider the following questions about medication use during pregnancy.

- Is this medication safe to take during pregnancy?
- What are the benefits?
- What are the risks?
- Are there any alternatives?

If a woman needs to take medication while breastfeeding, she can ask her health care provider if it is okay to breastfeed while taking this medication or if there are safer alternatives. Most medications are safe to take while breastfeeding.

Taking recreational or street drugs during your pregnancy or while breastfeeding is harmful to both mother and baby.

Pregnant women can discuss recreational or street drug use with their health care provider before they get pregnant or as soon as possible. It is safest not to use drugs during pregnancy or while breastfeeding. If women are considering quitting drug use while pregnant they can speak to their health care provider about the safest way to quit.

Babies born to mothers who take drugs may:

- Be born too soon and be smaller than average.
- Have health problems.
- Go through drug withdrawal if their mother uses drugs prior to birth.
- Have problems learning.

Talk to their health care provider about getting help or contact Motherisk at 1-877-327-4636.



Suggested Activity: Detecting Hidden Exposures

Purpose: To detect hidden exposures to hazardous products.

Materials: None.

Instructions:

- 1. Ask the participants to identify which of the following pictures represents a potential exposure hazard for a pregnant woman and her unborn baby.
- 2. Once participants have provided their answers, inform the class that *all* the images can represent potential hazards. Exposures mainly occur through breathing, touching or swallowing the harmful substances.
- 3. Emphasize that while no one can control everything in their environment, they can make small changes to limit potential exposures and make a difference to the safety of the pregnant woman and her growing baby.



Exposure to certain chemicals and pollutants before and during pregnancy may have an effect on pregnant women and their unborn babies.

Pregnant women can take simple steps to reduce their exposure to harmful substances often found in and around the home. Pregnant women should not be involved in home renovations.

Things you may want to reduce use of or use with more caution include:

- Plastic storage containers or toys that are not BPA-free or PVC-free.
- Oil-based paints and thinners.
- Lead from older water pipes and lead-based paint (often disturbed during renovation projects).
- Cleaning products with ammonia, bleach, and turpentine.
- Pesticides.
- Fragrances (e.g., in laundry products, personal care products, air "fresheners")

Alternatives could include:

- Glass food-storage containers or plastic products labelled as BPA-free.
- Toys labelled as phthalate-free or PVC-free, and that don't give off a chemical smell when new.
- Latex paint and low-VOC paint or VOC-free paint, taking care to air out newly painted spaces before reentry.
- Baking soda or vinegar mixed with water as a cleaning agent.



There are helpful tips to minimize the risks of harmful substances in and around the home:

- Airing out new plastic items before their use.
- Dusting or mopping your home frequently to reduce levels of chemicals that settle into house dust.
- Using lead-free products for hobbies such as painting, stained glass, and glazing pottery.
- Removing shoes at the door.
- Using a dry cleaner that does not use solvents.
- Ventilating your home when cleaning or painting.
- · Reducing activity outdoors during Air Quality Index advisories.

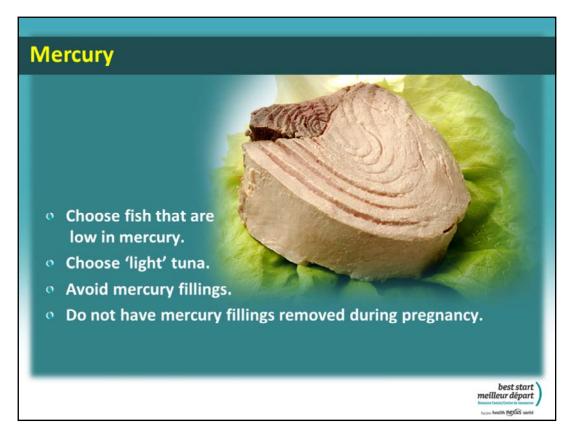


Some personal care products may not be safe during pregnancy.

Pregnant women can contact Motherisk or speak to their health care provider if they have questions regarding personal care products or herbal products. Just because something is labelled as natural does not mean it is safe in pregnancy.

Some personal care products that may contain harmful ingredients include:

- Tanning products.
- · Nail polish and nail polish remover.
- Hairspray and hair dye.
- Skin products that contain retinol.
- Cosmetics that contain toxic ingredients.
- Perfumes and fragranced personal care products.
- · Insect repellents.
- Natural health products or herbal substances (pills, teas).



Food can be another source of exposure to harmful substances. Pesticides (see slide 13) is one of them, mercury is another. Mercury is a naturally occurring metal that is highly toxic to the developing brain. It is released from some industrial processes and coal-fired power plants, and can be found in certain products, such as old-style glass thermometers and cavity fillings. Mercury exposure is harmful during fetal and childhood development because it can permanently affect the brain and nervous system.

Some types of fish can have high levels of mercury. Too much mercury can harm your growing baby.

- Choose fish that are low in mercury and high in omega-3 fats, such as Atlantic mackerel,
 Arctic char, herring, rainbow trout, wild or canned salmon, sardines and anchovies.
 Health Canada recommends eating at least two 75 gram (or ½ cup) Canada's Food Guide
 servings per week of low-mercury fish.
- If you eat fish from local rivers and lakes, check the Guide to Eating Sport Fish in Ontario (see resource list).
- If you eat canned tuna, choose 'light' more often than "white" albacore tuna, as the light varieties are lower in mercury.
- Avoid or rarely choose high mercury fish like escolar, marlin, orange roughy, sea bass, shark, swordfish and tuna steak.

Other helpful tips:

- Replace older glass thermometers.
- Avoid mercury fillings and do not have mercury fillings removed during pregnancy. Ask your dentist about alternative materials such as resin composites.



Smog is a big component of outdoor air pollution. It forms when heat and sunlight react with gases and fine particles in the air. The pollutants in smog are mainly from the burning of fossil fuels like gas and coal used to power homes, vehicles, and electricity plants. In some areas and at certain times of the year, it may also be in the form of forest fire smoke. The air inside buildings can be as polluted, or even more polluted than the air outside. With Canadians spending the majority of their time indoors, both indoor and outdoor air quality are significant factors in our health.

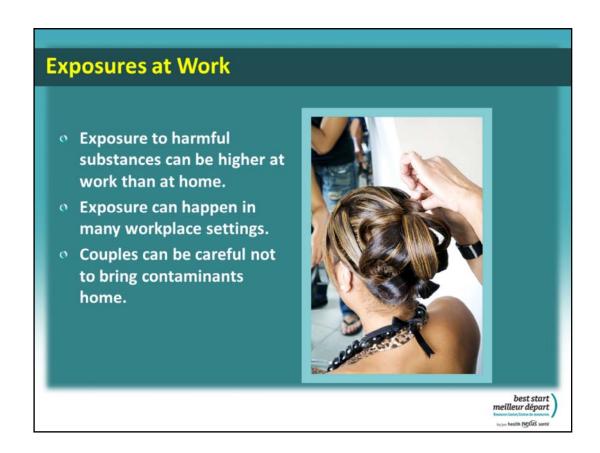
Outdoor air contains many pollutants that, under certain conditions (e.g., smoke and smog), may be harmful to the unborn child. Smog has been linked to an increase in neural tube defects and low birth weight.

Indoor air has also been found to contain numerous pollutants.

Recommendations:

To decrease the risks associated with poor air quality, encourage pregnant women to:

- Visit airhealth.ca for updates on Air Quality Index advisories.
- Reduce outdoor activity during Air Quality Index advisories.
- Keep the home free of dust.
- Keep the home well-ventilated.
- Ensure that fuel-burning appliances are well-maintained and inspected yearly.
- Reduce the use of aerosol sprays and fragranced products indoors.



- Exposure to harmful substances is often higher at work than at home. If a pregnant
 woman is exposed to hazardous chemicals or heavy metals at work, it is especially
 important to follow workplace safety guidelines, use proper safety equipment and wash
 hands before eating. If necessary, to avoid exposures, request a transfer to a safer work
 station. The developing fetus is highly vulnerable to the potential adverse effects of toxic
 chemicals and metals.
- Toxic chemical exposures can be an issue in a range of workplaces, including industrial settings, hair and nail salons, dry cleaning establishments, in transportation, construction and agricultural occupations (including pet care i.e., toxoplasmosis) and in some office and retail settings.
- Couples can be careful not to bring contaminants into the home through shoes, clothing and equipment if they work with chemicals.

If concerned about environmental exposures in the workplace, contact the following:

- Occupational Health and Safety Officer .
- Primary health care provider.
- Motherisk at The Hospital for Sick Children at 416-813-6780 or <u>www.motherisk.org</u>.
- Workers Health and Safety Centre at 416-441-1939 or www.whsc.on.ca.

Adapted from Work & Pregnancy Do Mix.



Note to Prenatal Educator:

If you have not already done so, provide to the participants the CPCHE brochure *Creating Healthy Environments for Kids*, which offers ideas of simple things to do to reduce the risk of environmental exposure. www.healthyenvironmentforkids.ca/resources/creating-healthy-environments-kids

View the companion video « Creating Healthy Home Environments for Kids: Top 5 Tips ». The video reinforces key messages from the module (e.g., why reducing exposures during fetal development is particularly important), and describes 5 simple, low-cost tips for reducing common toxins in the home. Available in English, French and Anishinaabemowin at: www.healthyenvironmentforkids.ca/resources/creating-healthy-home-environments-kids-top-5-tips



- The number of environmental hazards may feel overwhelming...
- Try to think of the steps you can realistically take to reduce the risks to you and your children: what would have the most impact?
- Make sure that you reduce your environmental exposure not only during pregnancy but throughout your lifespan. Fortunately, there are now many products that are safer and can help reduce health risks.

Suggested Activity: Fact or Fiction – Environmental Exposures

Time: 10 minutes

Purpose: To review common environmental exposures and clarify any myths or misconceptions. **Materials:** Paper plates with the words "Fact" written on one side and "Fiction" written on the other. May attach a handle if desired (popsicle stick, etc.)

Instructions:

The prenatal educator asks questions to review common environmental exposures and learners decide if they think it is fact or fiction. The prenatal educator can then clarify further research and info for any questions some participants didn't guess accurately. See module outline for sample questions.

Source: Adapted with permission from the Institute of Childbirth Educators.

For More Information

- Canadian Partnership for Children's Health and Environment (CPCHE) www.healthyenvironmentforkids.ca
- Expecting to Quit <u>www.expectingtoquit.ca</u>
- Health Care Provider
- Local Public Health Unit
- o Motherisk <u>www.motherisk.org</u>
- Occupational Health and Safety Officer
- o Pregnets <u>www.pregnets.org</u>
- o Smoker's Helpline www.smokershelpline.ca
- Workers Health and Safety Centre www.whsc.on.ca

best start meilleur départ lances Castes, Castes de sannée layour health nexus santé The information represents the best practice guidelines at the time of publication.

The content is not officially endorsed by the Government of Ontario.

Consult your health care provider for information specific to your pregnancy.



This document has been prepared with funds provided by the Government of Ontario



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