Most women take some kind of drug, substance or medication during pregnancy, sometimes without realising the potential for harm. Drugs or medication taken by the mother may cross the placenta and reach the developing fetus. The possible effects may include developmental delay, intellectual disability, birth defects miscarriage and stillbirth.

You should always give your doctor, midwife and pharmacist a full list of all the medications you take, or have recently taken, including:

- prescription medicines
- over-the-counter medicines
- nutrition supplements (such as vitamins)
- complementary therapies (such as herbal medicine).

You should also tell your doctor or midwife if you smoke, drink alcohol or take illegal drugs, even if you only take them occasionally or socially.

**Effects of medication, drugs or substances during pregnancy**

Generally a drug, substance or medication can cause harm by:

- interfering with normal fetal development
- damaging the baby’s organs
- damaging the placenta and putting the baby’s life at risk
- increasing the risk of miscarriage
- bringing on premature labour.

The potential for harm to the pregnancy and unborn baby depends on a range of factors including:

- the type of drug or medication taken
- how the drug or medication is taken
- the size of the dose
- how often it is taken
- whether the drug or medication is used alone or in combination with other drugs or medications
- the individual response of the baby to the drug or medication.

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the gestational age of the baby
other factors, such as maternal health and diet.

Harmful drugs, substances and medications

Some drugs, substances or medications may be harmful during pregnancy, depending on the amount and frequency of use. These include:

- medicines – including some prescription drugs, over-the-counter medicines and complementary medicines, such as herbal remedies or nutrition supplements
- illicitly used prescription drugs – such as benzodiazepines or morphine
- tobacco
- alcohol
- caffeine – for example, tea, coffee and cola drinks
- illegal drugs – such as cannabis, heroin, cocaine or amphetamines
- substances used as drugs – such as inhalants (glues or aerosols).

Drugs such as heroin and amphetamines are often mixed or ‘cut’ with unknown substances. These unknown substances can also be harmful to the pregnancy or fetus.

Birth defects and medicines taken during pregnancy

The risk of a birth defect for any baby is about four per cent, regardless of the circumstances during pregnancy. This means that even a woman who strictly avoids drugs and medications while pregnant may still have a baby with a birth defect.

Most medicines are not harmful to a developing baby. However, some may interfere with the normal development of a fetus and cause birth defects (these medicines are said to be ‘teratogenic’).

Teratogenic drugs and medicines

Numerous drugs or drug groups may cause birth defects in a developing fetus, including:

- ACE (angiotensin converting enzyme) inhibitors used to treat high blood pressure or congestive heart failure
- angiotensin II antagonists, also used to treat high blood pressure or congestive heart failure
- Isotretinoin (an acne drug)
- alcohol
- cocaine
- high doses of vitamin A
- lithium
- male hormones
- some antibiotics
- some anticonvulsant medications
- some cancer-fighting medications
- some drugs that treat certain rheumatic conditions
- some thyroid medications
- Thalidomide
- the blood-thinning drug warfarin
- the hormone diethylstilbestrol (DES).

This list is not complete. For example, the teratogenic effects of illegal drugs (such as cannabis or amphetamines)
are not clear, because of the lack of medical studies.

**Pregnancy risk classification for medicines**

Medicines in Australia are given a risk category by the Australian Drug Evaluation Committee for drugs used in pregnancy, according to their safety information. This category applies only to recommended doses.

The classifications include:

- **A** – medications that have been taken by a large number of pregnant women without any proven increase risk of birth defect
- **B** – medications that have been taken by only a limited number of pregnant women. Human data is lacking and they are further categorised based on available data from animal studies
  - **B1** – animal studies have not shown any increased risk
  - **B2** – animal studies are limited, but there does not seem to be any increased risk
  - **B3** – animal studies show an increased risk, but it is not clear if this risk applies to humans
- **C** – medications that, due to their effects, may cause harm to the fetus without causing birth defects. These effects may be reversible
- **D** – drugs that have caused or may cause birth defects. However, the health benefit may outweigh the risk
- **X** – drugs that have a high risk of birth defects and should not be used during pregnancy.

See your doctor or pharmacist for further information and explanation.

**Medicines that may be necessary during pregnancy**

Good health in the mother is vital to ensure healthy development and growth of her unborn baby. Women with pre-existing medical conditions (such as asthma, epilepsy, high blood pressure, thyroid conditions or diabetes) must continue treatment with appropriate medications during pregnancy.

Sometimes, a prescription medication has the potential to cause harm to the baby. However, stopping the prescribed medication could also pose a threat to both the mother and her baby. For example:

- If a pregnant woman who has asthma stops taking her medication, there is a risk of slowing the growth of her unborn baby.
- If a pregnant woman who has epilepsy stops her anti-epileptic medications, she may have an increased risk of having seizures, and complications to her pregnancy and unborn baby.
- Poorly managed maternal diabetes increases the health risk for the unborn baby.

In some cases, your doctor may be able to prescribe a similar medication that is considered safer to use during pregnancy.

Illnesses (such as an acute respiratory infection like pneumonia) or complications during pregnancy (such as pre-eclampsia) may be treated with prescription drugs. Do not stop taking or alter the dose of a prescribed medicine without the knowledge and consent of your doctor.

Untreated, some illnesses or pregnancy complications may risk the health of the mother or baby, or both. Discuss any concerns you may have about medicines with your doctor or midwife.

**Smoking and alcohol during pregnancy**

Some pregnant women may be unaware that smoking and consuming alcohol and caffeinated drinks during pregnancy could risk the health of their unborn baby. For example:

- **smoking** – a woman who smokes during pregnancy increases her risk of miscarriage and stillbirth. Babies

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have a greater risk of low birth weight, prematurity and sudden unexpected death in infants (SUDI).

- **alcohol** – frequent and heavy use of alcohol is known to cause fetal alcohol spectrum disorder, which includes a range of defects such as facial abnormalities, heart problems and retarded growth.

- **caffeine** – an association between caffeine use during pregnancy and the incidence of birth defects, miscarriage and other adverse pregnancy outcomes has not been found. However, heavy use (greater than seven cups of coffee per day) may be associated with an increased risk of low birth weight.

**Alcohol consumption during pregnancy**

Drinking alcohol during pregnancy has been associated with miscarriage, babies who are small for their gestational age and intellectual impairment in children (known as fetal alcohol syndrome). No completely safe level of alcohol consumption has been determined for pregnant women.

The National Health and Medical Research Council recommendations for women who are pregnant, or might soon become pregnant, are that:

- Not drinking alcohol is the safest option.
- The risk of harm to the fetus is highest when there is high, frequent, maternal alcohol intake.
- The risk of harm to the fetus is likely to be low if a woman has consumed only small amounts of alcohol before she knew she was pregnant or during pregnancy.
- The level of risk to the individual fetus is influenced by maternal and fetal characteristics and is hard to predict.

Note: A standard drink contains 10 g of alcohol.

**Illegal drugs and pregnancy**

Since illegal drug use is a secretive activity, our knowledge on the effects of these drugs during pregnancy is limited. Substances with some known effects include:

- **amphetamines** – increased risk of low birth weight, birth defects, premature birth
- **cannabis** – increased risk of growth retardation, sleep problems, behavioural problems
- **cocaine** – increased risk of miscarriage, pre-term birth, growth retardation, stillbirth and birth defects (of the brain, heart, genitals and urinary system)
- **heroin** – increased risk of low birth weight, prematurity, fetal distress, stillbirth, blood-borne viral disease such as hepatitis, infant withdrawal after birth
- **inhalants** – increased risk of miscarriage, low birth weight, birth defects, SUDI.

**Drugs used to treat heroin and other opioid dependence**

Methadone and buprenorphine are prescription drugs, sometimes called pharmacotherapies. They are used to help treat heroin and opioid dependency. The risks to the fetus and pregnancy associated with heroin use are greatly reduced with both of these treatments. The benefits of pharmacotherapy are reduced if you continue to use heroin or other drugs.

**Recommendations for use of medication, drugs and substances during pregnancy**

Be guided by your doctor, but general recommendations include:

- Limit yourself to less than 200 mg of caffeine per day (which roughly equates to one espresso-style coffee or two cups of instant coffee per day, or four cups of medium strength tea or hot chocolate per day, or six cups of cola per day).
- Avoid energy drinks.
- Don't smoke.

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Avoid illegal drugs.
See your doctor or seek drug counselling if you need help to quit smoking, alcohol or other drugs.
Don’t assume that non-prescription medications are safe because you can buy them over the counter without a prescription. Be advised by your doctor or pharmacist.

**Using alternatives to medications during pregnancy**

Whenever possible, use non-drug alternatives to manage minor health concerns during pregnancy. For example:

- Avoid heartburn by eating small, frequent snacks rather than three large meals.
- Use salt-water nasal sprays to treat nasal congestion.
- Avoid foods or smells that trigger nausea.

**Where to get help**

- Your doctor
- Midwife
- Obstetrician
- Pharmacist
- Drug and alcohol counsellor
- DirectLine Tel. 1800 888 236 – for 24-hour confidential drug and alcohol telephone counselling, information and referral
- The Women’s Alcohol and Drug Service Tel. (03) 8345 3931
- Ask a pharmacist – The Royal Women’s Hospital Medicines Information Service Tel. (03) 8345 3190
- Australian Drug Foundation Tel. 1300 85 85 84
- Family Drug Help – for information and support for people concerned about a relative or friend using drugs Tel. 1300 660 068

**Things to remember**

- Most women take a drug of some kind during pregnancy, often without realising the potential for harm.
- Give your doctor, midwife and pharmacist a list of all medications and drugs you take or have recently taken, including prescription and over-the-counter medicines, nutrition supplements, complementary therapies (such as herbal medicine), social drugs (such as alcohol) and illegal drugs.
- Women with pre-existing medical conditions (such as asthma, epilepsy or diabetes) must continue treatment with the appropriate medications during pregnancy under supervision of a doctor.
- Ask your doctor or midwife for advice or seek counselling if you need help to stop taking alcohol or other drugs.
- If you are concerned about your long-term medication, the doctor may, in some cases, be able to prescribe a similar medication that does not have any known effects on the fetus.