

Preconception & pregnancy health

Pregnancy places many demands on a woman's body. The term *preconception* generally refers to the three months leading up to pregnancy. Ensuring you are as healthy as possible in the preconception period can help with conception, reduce the risk of issues arising during your pregnancy and assist your recovery from birth.

However, since many pregnancies are not planned, some women do not get the opportunity to address their preconception health. These women can feel reassured that many of the changes detailed below will be beneficial at any stage of pregnancy.

Men's preconception health is also important as sperm production takes about three months. Many lifestyle factors can impact on sperm quantity and quality. Men should check with their doctor about what changes they should make during the preconception period.

Diet

Eating well in the preconception period can aid conception by ensuring ovulation is occurring as it should. Once pregnant, a healthy diet helps ensure the baby grows and develops properly and reduces the risk of developing complications such as pre-eclampsia and gestational diabetes.

Generally, women should aim to reduce their intake of processed and refined foods as these are often of poor nutritional value. A diet based on vegetables, legumes, fruit, wholegrains, lean meat, poultry, fish and dairy foods is recommended for all Australian adults. Eating this diet will help ensure women have adequate levels of nutrients such as zinc, magnesium, potassium and vitamins C, B6 and E; all of which play a role in fertility.

ADDITIONAL CONSIDERATIONS

Iron

A woman requires a higher daily iron intake during pregnancy and iron deficiency in pregnancy is common in Australia. It is therefore a good idea to ensure that iron levels are adequate in the preconception period so that these levels can be more easily maintained during pregnancy. Red meat is the best source of iron but it is also found in chicken, fish, leafy green vegetables, legumes and iron-enriched breakfast cereals. Consuming foods that contain vitamin C helps the body to absorb iron contained in non-meat sources. Women should check with their doctor about having their levels tested and whether they require a supplement.

Calcium

While calcium is an important nutrient during both the preconception period and during pregnancy women do not actually require any additional dietary intake during these times. Women should, however, ensure they eat 2 ½ serves of dairy foods or alternatives each day to ensure they are getting enough calcium in their diets. A serve of dairy is equal to a glass of cow's milk or calcium-fortified soy milk, a small tub of yogurt or 2 slices of cheese.

Vitamin D

Although there is no increased requirement for vitamin D in the preconception period or during pregnancy, vitamin D deficiency during pregnancy is common in Australia. Low levels of vitamin D are associated with impaired fertility and problems during pregnancy. Additionally, as breast milk contains a low level of vitamin D it is particularly important for pregnant women to ensure appropriate levels in the later stages of pregnancy so the baby has adequate supplies after birth. Although vitamin D is found in some foods the major source is sunlight. Most women in Queensland can get enough vitamin D from the sun by exposing their bare face, arms and hands for a few minutes before 10am or after 3pm on most days of the week.

Fish

Eating fish is an important part of a healthy diet in the preconception period and during pregnancy. However, larger and longer living fish such as orange roughy, shark or marlin can contain higher levels of mercury. At high levels, mercury can affect the unborn baby's nervous system. Women who are planning a pregnancy or who are pregnant should limit their intake of fish types that may have higher mercury levels. Tinned tuna is safe to eat 2-3 times per week as smaller, younger fish are used in canning. Fresh species safe to eat 2-3 times a week include mackerel, salmon, snapper, and trevally.

Listeriosis and other foodborne illness

Listeriosis is caused by the listeria bacteria and can be harmful to the unborn baby. During the preconception period and throughout pregnancy women should avoid eating foods more likely to contain listeria including:

- soft, semi soft and surface ripened cheeses such as brie, camembert, ricotta, fetta, blue (safe if served hot)
- soft serve ice-cream and drinks made with it (e.g. thickshakes)
- pre-packaged or pre-prepared fruit and vegetables (including buffets)
- cold seafood (e.g. oysters, prawns, sashimi, smoked salmon), cold meats and pâté
- unpasteurised dairy products (e.g. raw goat's milk).

Women's Health Queensland Wide Inc (Women's Health) is a not for profit, health promotion, information and education service for women and health professionals throughout Queensland.

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Women are more susceptible to foodborne illness during pregnancy as the immune system is suppressed so preparing and storing food safely are extremely important. To help reduce the risk of developing a foodborne illness women can:

- wash hands before preparing or serving food
- store raw foods in the bottom of the fridge
- keep and serve cold foods below 5°C
- cook and serve hot foods above 60°C
- use left-over foods within a day of cooking or purchase.

SUPPLEMENTS

Folate (folic acid)

Folate is a B-group vitamin that is extremely important in the preconception period as it helps prevent neural tube birth defects such as spina bifida. Folate requirements are also much higher during pregnancy. Because the neural tube is formed before most women are aware they are pregnant it is recommended women take a 400 microgram folic acid supplement for at least one month prior to pregnancy and for the first three months after conception. This supplement should be in addition to eating foods rich in folate such as cereals, bread, green leafy vegetables, legumes and fruit.

Iodine

Iodine is essential for making thyroid hormones, which regulate metabolism. It is essential for development of the fetus' brain and nervous system. In Australia iodine deficiency is relatively common. In pregnancy, deficiency can result in fetal cognitive impairment including lowered intelligence and hearing problems. The best dietary source of iodine is seafood (including seaweed). Because the body does not store iodine it is important to eat a constant supply. Iodine requirements increase during pregnancy. It is therefore recommended that women take a daily iodine supplement of 150 micrograms per day in both the preconception period and during pregnancy.

Women taking a multivitamin containing folate and/or iodine should ensure it is specifically designed for preconception and/or pregnancy as some other vitamins (e.g. vitamin A) are dangerous if taken in high amounts during pregnancy.

Women who follow a vegetarian or vegan diet should consult with their health professional about extra requirements in the preconception period and during pregnancy, particularly for nutrients such as vitamin B12, iron and calcium.

INCREASED FOOD INTAKE DURING PREGNANCY

To meet increased energy and nutrient requirements during pregnancy it is recommended that each day women eat:

- 2 ½ extra serves of grain food such as a slice of wholegrain bread, ½ cup cooked pasta or noodles or ½ cup cooked porridge or polenta
- 1 extra serve of lean meat (65g cooked), poultry (80g cooked), fish (100g cooked), eggs (2 large), nuts (1/3 cup), seeds (1/4 cup) or legumes/beans (1/3 cup cooked).

Pregnant women also need to drink slightly more water each day (1 extra glass).

Physical Activity

Regular exercise is important for all women for physical and emotional wellbeing. Being fit and active in preconception will help to manage the physical and emotional changes that pregnancy and motherhood bring. Women planning a pregnancy should aim to participate in 30 minutes of moderate intensity activity on most days of the week. Even women who have been relatively inactive can start a low to moderate-intensity exercise program after seeking medical advice. If women are

participating in regular moderate-intensity exercise in preconception there is no need to stop once pregnant.

Women should tell their exercise instructor if they are pregnant or could be pregnant as some exercises may not be suitable or may need to be modified. In general, women should avoid activities that will raise the body temperature too high, limit oxygen supply or increase the risk of them falling. This includes activities such as scuba diving, parachuting, waterskiing, martial arts, gymnastics, horse riding and trampolining. Strained lifting and exercises done lying back-down should be avoided during the second half of pregnancy. Activities that women find particularly beneficial include walking, swimming, yoga and Pilates.

Women planning a pregnancy should also perform regular pelvic floor exercises. Having a strong pelvic floor can provide protection against incontinence, a common problem for women following childbirth. Pelvic floor exercises are designed to strengthen the muscles of the pelvic floor by actively tightening them and lifting them at intervals.

Weight

Being over or under weight can affect fertility. Women who are overweight or obese can experience ovulation problems. Similarly, being below an ideal weight or having fat levels that are too low can result in irregular menstrual cycles. Maintaining a healthy weight, therefore, can help regulate ovulation and menstrual cycles, consequently improving the chances of pregnancy. Being at an ideal weight before conception also allows women to better adjust to the weight gains associated with pregnancy.

It is important to maintain a healthy weight throughout pregnancy to reduce the risk of complications. The amount of weight to be gained throughout pregnancy will depend on preconception weight. Women who have a lower weight relative to their height in the preconception period will generally be recommended to gain more weight during pregnancy than a woman with a higher weight to height ratio. Women should ask their health professional for individual advice on weight gain during pregnancy.

Emotional wellbeing

While physical health is often the focus of preconception information, a woman's mental and emotional health is just as important and is closely linked with physical health. Women who are taking medications for a mental or emotional health issue should consult with their doctor if possible prior to conception as some medications can affect the fetus. Women who have experienced mental or emotional health issues in the past should also consult with their health professional as this time can exacerbate existing issues or trigger recurrences of past ones.

Preconception, pregnancy and parenthood are times of significant change and can be overwhelming as well as exciting. A significant number of women will be affected by depression during pregnancy (10%) and/or after their baby is born (16%). There are a number of strategies that women can use to help reduce some of the risk factors for developing antenatal and postnatal depression. These include:

- discussing expectations of pregnancy and parenthood
- avoiding upheavals such as changing jobs, moving house or renovations
- seeking help for any untreated emotional and mental health conditions such as anxiety
- establishing a relationship with a health professional.

Regular physical activity and a healthy diet are also important to help maintain emotional wellbeing. For further information see Women's Health's *Antenatal and postnatal depression* booklet.

Relationships

The preconception period can be an anxious time. Women and their partners might be worried about their ability to conceive, what type of parents they will be and the impact of children on their relationship. Discussing these fears with each other, along with expectations of parenthood, can help overcome anxieties and make issues easier to deal with if they arise.

The physical and emotional changes that occur during pregnancy can be drastic and difficult to cope with for both partners, even in pregnancies that are planned. Understanding what is normal can help, as can discussing fears with each other or a health professional.

Women who are experiencing domestic or family violence, including sexual or emotional abuse, have the right to feel safe. Help is available for women, whether they decide to leave or stay in a violent relationship. Seeking help before becoming pregnant is best as research indicates that violence can escalate in frequency and/or intensity during pregnancy. Women in Queensland can call the [dvconnect womensline on 1800 811 811](tel:1800811811) for help and support.

Stimulants and medications

CAFFEINE

Caffeine is a stimulant found in coffee, tea, cocoa, cola, energy drinks and chocolate. A light to moderate intake of caffeine does not appear to interfere with conception. However, high consumption of caffeine can affect fertility and increase the risk of miscarriage. Women planning a pregnancy should, therefore, limit their daily amount of caffeine to:

- 2 cups of coffee, or
- 4 cups of tea, or
- 4 cups of cola drink, or
- less than 1 cup of cola or energy drink that contains extra caffeine.

SMOKING

Quitting smoking is an important step in preconception care as it can interfere with the ability to conceive, both naturally and through the use of assisted reproductive technologies such as IVF. The impact of smoking in pregnancy is well documented, being linked to premature birth, low birth weight and miscarriage. Ideally women should aim to quit several months before pregnancy, but stopping or reducing smoking at any time is still beneficial.

Women planning a pregnancy or who are pregnant can first attempt to quit smoking without using nicotine replacement therapy (NRT) products. If a woman wants to use NRT during pregnancy, products such as gum, microtabs, lozenges and inhalers are generally preferred to patches. However, using patches during pregnancy is still preferred to smoking. Women can find support by phoning [13 QUIT \(13 7848\)](tel:13QUIT).

ALCOHOL

Studies on the affect of moderate alcohol consumption on a woman's fertility have produced conflicting results. For women who are pregnant the risk from low-level drinking (i.e. 1 to 2 drinks per week) is likely to be small. However, because no safe limit can be set, the Australian guidelines currently advise that 'for women who are pregnant or planning a pregnancy, not drinking is the safest option'.

RECREATIONAL DRUGS

The use of recreational drugs should be avoided both in the preconception period and during pregnancy. Women who have a drug dependency and are concerned about the effects can seek help from a drug and alcohol information or counselling service.

MEDICATIONS

Women planning a pregnancy who take prescription medications, over-the-counter medications or complementary medicines should discuss their wish to become pregnant with all their health professionals (doctor, naturopath, etc). Current medications may need to be re-evaluated to ensure they are safe to take in the preconception period and during pregnancy. Women may need to switch to another medication or change their dose. It is not advisable for women to simply stop taking prescription medications without first consulting their doctor.

Medical issues

EXISTING MEDICAL CONDITIONS

Women with existing medical conditions (e.g. depression, epilepsy, eating disorders) should discuss their plans to become pregnant with their health professional. They can advise on any special requirements for managing the condition during pregnancy and determine any required changes to current medications (see *Medications* section above).

VACCINATIONS

Some viral infections cause birth defects if contracted during pregnancy. It is therefore preferable for women to be up-to-date with whooping cough/pertussis, measles, mumps, rubella, influenza, diphtheria and tetanus vaccinations before becoming pregnant.

For some vaccines it is recommended women wait 28 days from vaccination before trying to conceive. However, if a vaccination has been accidentally received while pregnant there is no need to be concerned as there is no convincing evidence that vaccinations cause problems in pregnancy. The influenza vaccine is safe to receive at anytime during preconception and pregnancy.

Whooping cough can be fatal for children under six months of age. For this reason it is important for unvaccinated women to be vaccinated as soon as possible after birth. Other adults likely to be in close contact with the newborn should ensure their vaccination is up to date prior to the birth.

Rubella (also known as German Measles) can be dangerous in pregnancy. Many women will have been vaccinated but this immunity can wear off in a small number of women. Women planning a pregnancy can be tested for immunity and vaccinated if found not to have immunity. It is recommended women wait at least one month from vaccination before trying to conceive.

Women who do not have a history of having had chicken pox may also consider having the chicken pox vaccine. As with rubella, this vaccine should be given at least one month before conception.

DENTAL

Women who have not had regular dental check-ups should visit a dentist before they become pregnant if possible. During pregnancy rising hormone levels increase blood flow to the gums, making them more susceptible to gingivitis (inflammation caused most commonly by plaque build-up). Women may find their gums become swollen and bleed more easily. In addition, dentists are often reluctant to carry out certain procedures during pregnancy (e.g. X-rays, those involving anaesthetic) so having any problems addressed beforehand is preferable.

PAP SMEARS

All women who have ever had sex should have a Pap smear every two years, unless otherwise advised by their doctor. While it is safe to have a Pap smear during pregnancy, some women prefer to have theirs done before they become pregnant.

Hazards

TOXOPLASMOSIS

Toxoplasmosis is a rare parasitic infection that can occur from eating uncooked or undercooked meat or through contact with infected soil or cat faeces. Most people have immunity as a result of prior exposure but if a woman first becomes infected with toxoplasmosis during pregnancy she can pass the infection on to her unborn child, causing miscarriage or birth defects. Women can minimise their risk during preconception and pregnancy by avoiding eating raw or undercooked meat, wearing gloves when handling cat litter or gardening and thoroughly washing hands after handling raw meat, cat litter or soil.

HEAVY METALS AND CHEMICALS

Repeated exposure to heavy metals such as lead and mercury and industrial chemicals in the home or workplace may reduce fertility and also increase the risk of miscarriage and birth defects. To limit exposure women can:

- check with their workplace health and safety advisor or doctor about any potential risks
- ensure that any workplace health and safety practices and procedures are followed
- wear appropriate protection (e.g. gloves, mask) when using any chemical products including household cleaners, pesticides, paints, and thinners
- wash hands thoroughly after using any chemical products and before eating or drinking
- avoid disturbing lead-based paint, commonly used in homes built before 1970. Women in preconception and pregnancy are advised to leave the home whenever paint containing lead is disturbed, returning only after all dust and debris has been cleaned.

COSMETIC TREATMENTS

There are no known harmful effects from dying hair in the preconception period or during pregnancy. Although hair dye is a chemical product it is thought that the body actually absorbs very little of it.

Manicure and pedicure products also contain many different chemicals but, as with hair dye, there is no evidence to suggest that use of these products has adverse effects on women in the preconception period and during pregnancy. Women who are concerned can look out for products advertised as being free of chemicals such as dibutyl phthalate, formaldehyde, toluene and acetone.

Spa treatments that raise the body temperature should be avoided by women once they are pregnant. Salon manicure and pedicure treatments may place women at risk of fungal and bacterial infections if tools and equipment such as foot spas and cuticle clippers are not cleaned and sterilised adequately. Women can bring their own instruments and products from home for salon treatments if they are concerned.



For help understanding this fact sheet or further information on preconception or pregnancy health call the Health Information Line on the numbers below.

This is one of a series of women's health information fact sheets available at www.womhealth.org.au.

call our Health Information Line

A free information and referral service for Queensland women

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