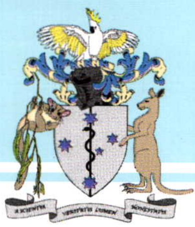


Australian and New Zealand Obstetrics and Gynaecology Patient Education

AURORA WOMEN'S HEALTH

Mi-tec Medical Publishing©

WEIGHT MANAGEMENT DURING PREGNANCY

Patient information to assist informed consent

Excess weight has become epidemic in Australia and New Zealand, with about five out of 10 women classified as either overweight or obese. Excess weight can lead to major health problems for women and their babies. Many clinical studies have proven that obesity is linked to serious health risks, such as heart disease, high blood pressure, diabetes, asthma, and arthritis, among others. During pregnancy, obesity puts both the mother and baby at increased risk of complications. Many genetic, social, behavioural and educational factors are involved in the development of obesity and excess weight. This means that no single approach to weight loss will always be effective. A weight-loss program should be tailored for each woman and should involve dietary changes, exercise and counselling.

RECOMMENDATIONS AND INFORMATION

For overweight or obese women who are pregnant, planning to become pregnant or have recently given birth, their doctors may choose to provide the following:

- information about weight-loss methods and nutrition before becoming pregnant, and diet during pregnancy
- information about risks to the mother and baby during pregnancy and labour
- advice about screening for diabetes and gestational diabetes
- dietary supplements, including folate, calcium, vitamin B12, iron and vitamin D
- consultation during pregnancy with an anaesthetist because caesarean section is more common and anaesthesia may have complications
- consultation with a dietitian about nutrition and appropriate weight gain during pregnancy
- counselling about nutrition and exercise following delivery and for future pregnancies
- consultation with a bariatric surgeon if a gastric band is in place, as adjustment during pregnancy may be necessary
- follow-up and discussion about further approaches that may be indicated, such as bariatric surgery.

YOUR COMPLETE MEDICAL HISTORY

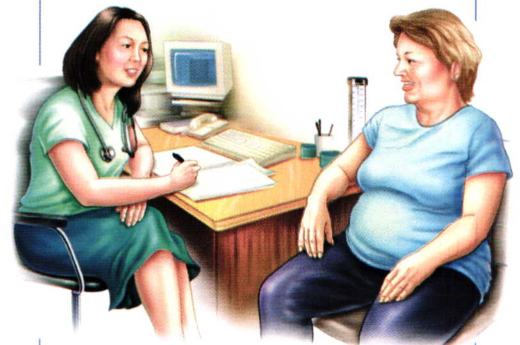
Your doctor and anaesthetist need to know your medical history. Discuss with your doctors any health problems you have had because some may interfere with pregnancy, delivery or recovery. Tell your doctors if you have or have had:

- an allergy or bad reaction to antibiotics, anaesthetic drugs, or any other medicines
- prolonged bleeding or excessive bruising when injured
- recent or long-term illness
- bariatric surgery or any other surgery.

Give your doctors a list of ALL medicines that you are taking or have recently taken. Include prescribed medicines, those bought without prescription, and "alternative" preparations. Include treatments such as blood pressure tablets, antidepressants and others.

Smoking: It is wise to stop smoking before pregnancy because of the negative effects on, and risks to, the developing fetus and the mother. Smoking has been linked to poor growth of the baby and stillbirth. Smoking significantly delays healing in the event of a caesarean section or other intervention. Your doctor will have information on Quit programs. If you cannot stop, reduce smoking as much as you can. It is best to quit.

TALK TO YOUR DOCTOR



The aim of this pamphlet is to provide general information for women who:

- are already overweight or obese when they become pregnant
- become overweight or obese during pregnancy.

This pamphlet is not a substitute for advice from your doctor. It does not contain all known facts about weight management during pregnancy. However, it provides important information that you may find helpful.

Read this pamphlet carefully, and save it for reference. Some terms may require further explanation by your doctor.

Write down questions you want to ask. Your doctor will be pleased to answer questions and discuss concerns you may have. If you are uncertain about the advice, consider seeking another medical opinion.

IMPORTANT: FILL IN ALL DETAILS ON THE STICKER BELOW

DEAR DOCTOR: When you discuss this pamphlet with your patient, remove this sticker, and put it on the patient's medical history or card. This will remind you and the patient that this pamphlet has been provided. Some doctors ask their patients to sign the sticker to confirm receipt of the pamphlet.

Edition number: 6

BODY MASS INDEX

Body mass index (BMI) is a calculated number that helps to determine whether a person is underweight, normal weight, overweight or obese. It is helpful to know your BMI if you are considering becoming pregnant or in the early stages of pregnancy.

BMI is calculated using your height and pre-pregnancy or early-pregnancy weight (your later-pregnancy weight will overestimate your true BMI).

You can estimate your BMI using the graph (right). Locate your weight in kilograms along the bottom of the chart and then move directly upward to your height in metres. The intersection of those two lines (weight and height) will tell you which BMI category you are in.

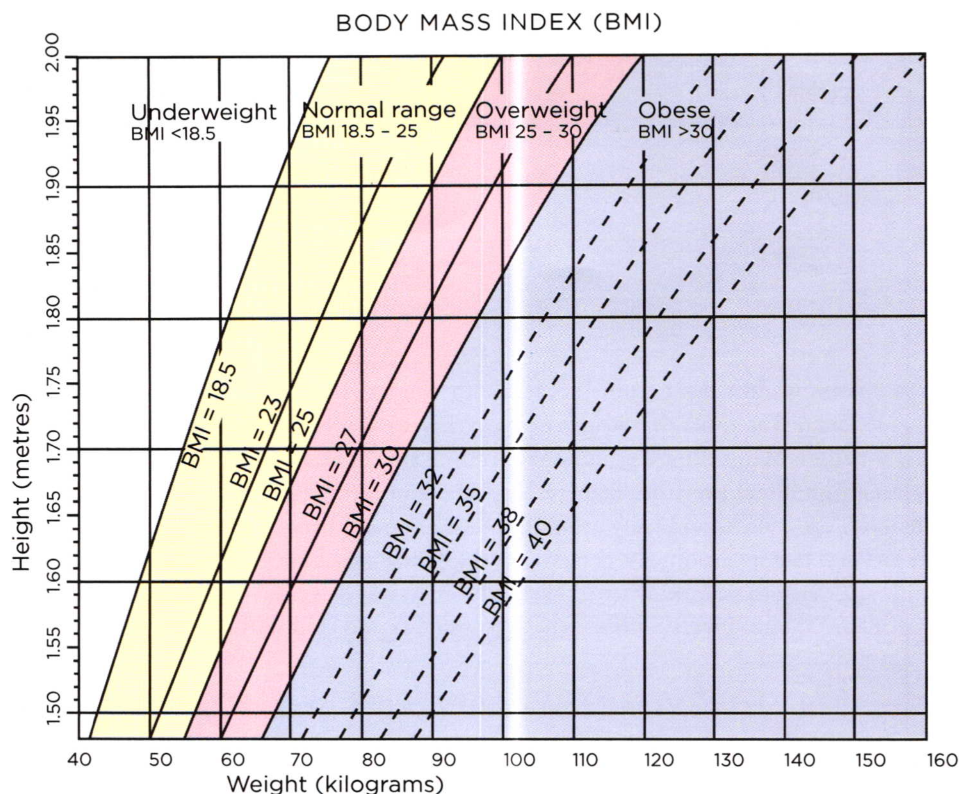
For example, a woman who weighs 70 kilos and is 1.65 metres (165 centimetres) tall is slightly in the overweight category, with a BMI of about 25.7.

While the graph provides a good estimate of BMI, your doctor may make more precise measurements.

You can calculate your BMI by dividing your weight (in kilograms) by your height (in metres) squared. For example, if a non-pregnant woman weighs 90 kilograms, and she is 1.6 metres tall, then her BMI is: 90 kg ÷ (1.6 m x 1.6 m) = 35.16.

A BMI of 35.16 places this woman into Obese class 2, as shown in the table (right).

While BMI is a helpful indicator, it is not a perfect measurement. It does not measure body fat or consider age, or account for genetic differences among some ethnic groups.



BMI and the risk of complications during pregnancy.

BMI	*Weight class*	*Risk of complications during pregnancy*	*Singleton pregnancy: Total weight-gain goal during pregnancy*
18.4 or less	Underweight	Increased risk	12.5–18 kg
18.5–24.9	Normal range/ healthy weight	No increased risk	11.5–16 kg
25–29.9	Overweight	No increased risk	7–11.5 kg
30–34.9	Obese class 1	Mildly increased risk	5–9 kg
35.0–39.9	Obese class 2	Moderately increased risk	5–9 kg
40 or more	Obese class 3	Severely increased risk	5–9 kg

HEALTH RISKS RELATED TO EXCESS WEIGHT AND OBESITY

If a woman is or becomes obese during pregnancy, the risk of complications is higher for her and her baby. However, risks may be reduced by careful weight control during pregnancy.

The following risks are not listed to alarm you. However, it is important that you have this information so you can make decisions about your food intake and exercise program, weight-loss counselling and pregnancy planning.

Increased risks to the mother and baby

- Early miscarriage.
- Gestational diabetes, a form of diabetes that develops during pregnancy.
- High blood pressure, also called gestational hypertension.
- Pre-eclampsia, a potentially serious condition that may require admission to hospital and earlier delivery. It is characterised by high blood pressure and protein in the urine. Symptoms include sudden swelling and rapid weight gain in the second half of pregnancy, headaches and shortness of breath.
- Increased risk of blood clots in the legs and lungs (thromboembolic disease).
- Higher rate of stillbirth.
- Difficulty in estimating the size and weight of the fetus, and difficulty in ultrasound assessment of the fetus.

Increased risks to the mother in labour

- Slow and difficult labour, increasing the need to assist with labour and delivery.
- Difficulty with fetal monitoring during labour.
- Difficulty with delivery of the baby's shoulders (shoulder dystocia).
- Need for a caesarean section; of women with a BMI greater than 35, about one woman in two will require a caesarean section.
- Caesarean section can be difficult in an obese woman. However, it may involve less risk to the baby than a complicated vaginal delivery (possibly of an abnormally large baby) where fetal monitoring may be compromised due to excess maternal weight. Potential complications during and after caesarean section include:
  - excessive blood loss that may require blood transfusion

- operative time that may exceed the normal by 30 to 60 minutes
- infection of the wound, wound breakdown, poor healing and excessive scarring
- endometritis (uterine infection).

- Complications related to epidural or spinal anaesthesia for pain relief. The anaesthetist may require several attempts to correctly place the catheter.

Increased risks to the mother after childbirth

- Heavy bleeding after delivery.
- Postnatal depression.
- Difficulty losing the extra weight gained during pregnancy.
- Difficulty with breastfeeding.
- Blood clot in a deep vein of a leg or the pelvis, or travelling to a lung (pulmonary embolism).

Increased risks to the baby

Obesity is associated with a greater risk of complications for the baby during the pregnancy and labour, and later in life. These risks are related to the mother's weight before pregnancy and to her weight gain during pregnancy.

Some of the risks for the baby are:

- Higher risks of birth defects or developmental abnormalities in the baby, such as incomplete development of the baby's spine (neural tube defect or spina bifida), for women who were obese before becoming pregnant.
- Abnormally high birth weight. A high birth-weight infant may be too big to move normally down the birth canal. This may require a forceps or vacuum-assisted delivery, or an emergency caesarean section.
- Difficulty with delivery of the baby's shoulders (shoulder dystocia), which may lead to nerve damage in one of the baby's arms and, rarely, other serious problems.
- During labour, difficulty in obtaining accurate and important information on contractions of the uterus and the baby's heart rate.
- Preterm delivery. Premature infants may have a range of health problems that result in lengthy hospitalisation and developmental problems.
- A low Apgar score, a measure of the baby's wellbeing. Soon after birth, the baby is tested for its Apgar score to determine whether immediate medical attention is needed. The Apgar score is based on the baby's heart rate, breathing effort, muscle tone, reflexes and colour.
- Medical problems with the newly born baby, for example, low blood sugar, jaundice or increased likelihood of admission to the neonatal nursery if the mother has developed diabetes in pregnancy.
- Higher rates of childhood obesity and diabetes. Babies whose mothers were obese or had gestational diabetes have a higher rate of these problems in childhood and adult life. Excessive maternal weight gain during pregnancy affects the baby's metabolism forever and increases the risks for obesity and diabetes in that baby as a teenager.

HEALTHY WEIGHT GAIN DURING PREGNANCY

Your baby's normal growth does not depend on your weight gain. Rather, it depends on your healthy diet.

If you were overweight when your pregnancy started, choose food wisely and exercise regularly to improve your health and fitness. This will help to minimise weight gain. Adequate nutrient intake during pregnancy is important for you and your baby, and can be achieved while eating less energy-rich food.

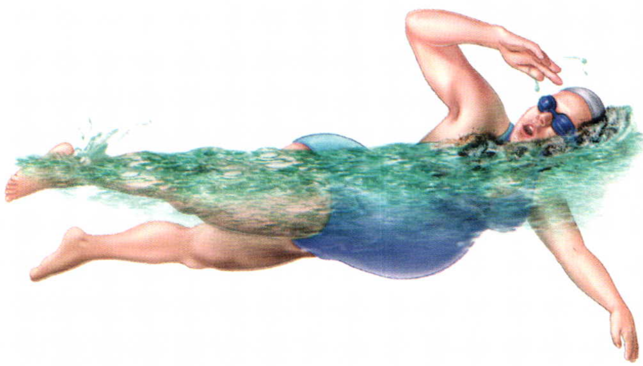
Use these tips to stay fit and healthy.

Diet

- Base each main meal on:
  - a one-quarter standard dinner plate of lean protein (meat, fish, chicken, egg, unroasted fresh nuts, or legumes)
  - a one-quarter standard dinner plate of carbohydrate (starchy foods such as rice, bread, potato or pasta)
  - a one-half standard dinner plate of cooked or fresh vegetables.
- Eat a healthy low-fat breakfast.
- Add flavour with herbs, spices and low-fat sauces to replace fat. For example, low-fat sauce might contain onion, tomato and herbs, or reduced-fat evaporated milk thickened with corn flour, and flavoured with grated reduced-fat cheese and paprika.
- For dessert, a good choice is a serve of fruit with low-fat milk or yoghurt.
- For snacks, choose foods that provide extra minerals (especially iron and calcium) and extra vitamins, particularly folate. The best snacks are balanced in protein, complex carbohydrate (not simple sugars), vegetables and milk. Other acceptable snacks are: small amounts of fresh nuts (unroasted), low-fat yoghurt, low-sugar high-fibre breakfast cereals, high-fibre low-fat crackers, reduced-fat cheese, boiled eggs, canned fish, vegetable pieces with a salsa dip, and vegetables sliced and grilled with reduced-fat cheese on bread.
- Each day, eat at least five portions of a variety of vegetables. One serve of fruit per day is recommended, but fruit should not be eaten in excess. Vegetables have a lower glycaemic index and are much healthier.
- When choosing starchy foods such as potatoes, bread, rice and pasta, use wholegrain and low glycaemic index (low GI) foods where possible. Occasional treats to substitute for bread, potatoes and rice in a meal are those with a low GI. Foods with low GI can be found in low GI diets and cookbooks. Low GI foods are more slowly absorbed and have health benefits. Be careful with quantities.
- Eat fibre-rich foods, such as oats, legumes and pulses (beans, peas and lentils), grains, seeds, fruit and vegetables.
- Choose low-fat and reduced-fat foods. Avoid those that have a higher sugar content. Check the packet labels for information on sugar and fat content.
- Eat a variety of foods that provide important fats: fish, fresh nuts (unroasted), lean meats, polyunsaturated and monounsaturated oils. The recommended maximum amount of added fats from butters, margarines and oils is about six teaspoons per day.

Avoid the following

- Fried foods.
- Drinks and lollies high in sugars.
- Food high in fat and sugar (for example, some roasted mueslis and similar highly processed breakfast cereals, coated nuts and chocolate).
- Snack foods that are low in nutrition and high in energy, such as sweet biscuits, savoury crackers, snack bars and health food bars.
- Beer, wine, spirits and all other alcoholic drinks during pregnancy. Even in low amounts, alcohol can affect the fetus. There is no safe amount of alcohol that can be recommended in pregnancy.



ACTIVITY

- Aim for 20 to 30 minutes of moderate physical activity each day. Many exercises and activities are safe for pregnant women. Check with your doctor first, especially if you have had any bleeding.
- Find the form of exercise that you enjoy most. Some women prefer swimming while others prefer walking or gardening, and so on. Many gym clubs and pools hold special exercise sessions for pregnant women. Swimming is particularly good because it is non-weight bearing and provides effective exercise without excessive strain on weight-bearing joints. (Do not scuba dive.)
- At every opportunity, build activity into your working day. For example, take the stairs instead of the lift. Take a walk at lunchtime. Park at the other side of the car park.
- Exercise with a friend. It is more enjoyable, and you can motivate each other.
- Keep sedentary activities to a minimum, such as sitting for long periods watching television, at a computer or playing video games. When you have to do these things, get up every 20 to 30 minutes, stretch, and do some exercises to raise your heart rate.
- Physiotherapists conduct exercise classes that are suitable for pregnant women. For more information, speak to a physiotherapist at the hospital where you will be giving birth.

Exercise tips

- Aerobic exercises should be low impact and less strenuous during pregnancy. Sports and exercises that result in overstretching are not advised.
- Avoid exercise in the supine position (lying on your back) after the first 16 weeks of pregnancy. This is because the weight of the baby can press on major blood vessels and make you feel faint.
- To avoid injury during exercise, do five to 10 minutes of warm-up and stretches for the muscles about to be exercised and five to 10 minutes of slow activity at the end as a cool-down.
- If you have not exercised for a while, start at a low level and increase gradually.
- To avoid becoming overheated, exercise at the coolest time of the day, early in the morning, in the evening, or in a cool environment.
- Drink plenty of water before, during and after exercising. Avoid sports drinks and soft drinks due to their high sugar content.
- Some pregnant women should not exercise for various reasons, so check with your doctor or midwife before commencing any exercise program. The patient education pamphlet "Exercise during pregnancy – a guide for women" may be helpful.

SUBSEQUENT PREGNANCIES

For obese mothers who want to have more children, the risks remain unless their weight is reduced. The risk that pregnancy complications will recur may be reduced by weight loss between pregnancies.

Many women hope for a vaginal delivery in the next pregnancy after a caesarean section (known as vaginal birth after caesarean, VBAC). The chance of a trial of labour and successful VBAC is much less in obese women (less than 30 per cent) but may be improved by weight loss before conception (that is, between the pregnancies). If you want a trial of labour and a VBAC, discuss it with your doctor. The patient education pamphlet "Vaginal birth after caesarean section – a guide for women" may be helpful.

A repeat caesarean section also has greater risks due to increased difficulties of the procedure in some women.

WEIGHT-LOSS SURGERY BEFORE PREGNANCY

New techniques in weight-loss (or bariatric) surgery have been successful in many people and have received a lot of media attention in recent years. This has prompted more obese women of child-bearing age to consider weight-loss surgery before becoming pregnant.

Benefits, risks and limitations of weight-loss surgery must be considered. It should only be used when all other measures (including those described in this pamphlet) have been tried. Following bariatric surgery, women may be advised to avoid pregnancy during the period of rapid weight loss, typically 12 to 18 months.

COSTS OF TREATMENT

Your doctor can advise you about the costs of treatment, medications and tests that may be required.

Fees may vary from the original estimates due to unexpected tests or treatments.

It is best to discuss the costs with your doctor before any treatment so that you are aware of any out-of-pocket costs and possible rebates.

Your Doctor

This patient education has been reviewed by obstetricians and gynaecologists in Australia and New Zealand

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