

View this article online at: patient.info/pregnancy/diet-and-lifestyle-during-pregnancy

Diet and Lifestyle during Pregnancy

Pregnancy can be a very exciting time for most people. It can also make some people feel anxious about what they should (or should not) be doing for their own and their baby's health.

Follow a healthy balanced diet

During pregnancy it is important to continue to eat a healthy balanced diet.

You may have an increased appetite but it is not necessary to 'eat for two', even if you are having twins or triplets. Too much weight gain increases your risk of developing problems later in the pregnancy. Also, extra weight is difficult to lose after the birth.

For women with a normal pre-pregnancy weight, a weight gain of 11-16 kg over the pregnancy is normal. The National Institute for Health and Care Excellence (NICE) advises that pregnant women only need an extra 200 calories per day in the last three months of pregnancy. No extra calories are needed until that point.

Aim to eat a healthy diet (which everyone should be eating, not just pregnant women). This should include a variety of foods including:

- Starch-based foods (such as bread, cereals, potatoes, rice, and pasta).
- Fruit and vegetables.
- Plenty of fibre, which can be found in wholegrain breads as well as fruit and vegetables.
- Protein foods such as meat, fish, pulses, chicken, etc, every day. Choose lean meat, cut the fat off red meat and the skin off chicken.
- · Dairy foods, such as yoghurt, milk and cheese.

Try to avoid adding fat - for example, by not frying food where possible.

Include foods with plenty of iron, calcium and folic acid - a growing baby needs these nutrients right from the start of the pregnancy:

- Iron is mainly in red meat, pulses, dried fruit, green vegetables and fortified cereals.
- Calcium is mainly in dairy products such as milk, cheese and yoghurt. (Low-fat milk, cheeses and yoghurts usually contain just as much calcium as the full-fat varieties.)
- Folic acid is mainly in green vegetables, brown rice, and fortified cereals.

Foods and drinks to avoid

You should not eat the following if you are pregnant:

- Anything with a lot of vitamin A You need a small amount of vitamin A to keep healthy. However, large amounts can harm an unborn baby. So, avoid:
 - Liver and liver products such as liver pâté and cod liver oil supplements.
 - Vitamin tablets or supplements which contain vitamin A.
- Food which may have high levels of listeria. Listeria is a germ (bacterium) which does not usually cause problems in people who are not pregnant. However, pregnant women are more likely to become infected with listeria and it sometimes causes miscarriage, stillbirth or infections in the baby after birth. Foods which are most at risk of carrying listeria are:
 - Undercooked meats and eggs. This may occur in some pre-cooked meats and pre-prepared meals. Make sure all
 meat foods are cooked until piping hot. Eggs should be cooked until the white and yolk are solid. Avoid foods that
 may contain raw eggs, such as some types of mayonnaise and mousse.
 - Mould-ripened and soft cheeses such as Brie, Camembert and blue-veined cheeses. (Hard cheeses and processed cottage cheese are safe.)
 - Pâtés including vegetable pâtés.
 - Raw shellfish and raw fish (more detail below).
 - Unpasteurised milk. Note: goat's milk is often unpasteurised, and goat's milk products such as cheeses are often
 made from unpasteurised milk.

- Certain fish. In general, fish is a good source of protein and other nutrients. Aim to eat at least two portions of fish per week, with at least one portion being oily fish (see below). However, there are some important exceptions. Some types of fish contain a high level of mercury which can damage the developing nervous system of an unborn baby. Because of this, the Food Standards Agency (FSA) advises:
 - You should not eat any shark, marlin or swordfish.
 - Limit tuna eat no more than four medium-sized cans (drained weight = 140 g per can) or two fresh tuna steaks per week (weighing about 140 g cooked or 170 g raw).

Avoid eating raw fish or uncooked shellfish which may contain germs (bacteria, viruses or parasites).

Also, some types of fish may contain a small amount of chemicals from pollution, including dioxins and polychlorinated biphenyls (PCBs). If you eat a lot of these fish, these chemicals may build up in your body over time, which may be harmful. Because of this, the FSA advises that you should have no more than two portions a week of any of the following fish:

- · Oily fish, including mackerel, sardines, salmon, trout and fresh tuna. (Tinned tuna doesn't count as oily fish.)
- Sea bream, sea bass, turbot, halibut, rock salmon (also known as dogfish, flake, huss, rig or rock eel).
- Brown crabmeat.
- Limit the amount of caffeine to no more than 300 mg per day. Some authorities advise limiting to 200 mg per day. Caffeine is a substance that occurs naturally in foods such as tea, coffee and chocolate; is added to some drinks such as cola, and some energy drinks; and is an ingredient of some cough and cold remedies, and some painkillers which you can buy at pharmacies. Having a lot of caffeine increases your risk of having a miscarriage and a baby with low birth weight. The increased risk is small. But, it is best to play safe. To give you an idea:
 - One mug of instant coffee has about 100 mg of caffeine.
 - One mug of filter coffee has about 140 mg of caffeine.
 - One mug of tea has about 75 mg of caffeine.
 - One 50 g plain chocolate bar has about 50 mg of caffeine. Milk chocolate has about half the caffeine that plain chocolate has.
 - One can of cola or half a can of an energy drink has up to 40 mg of caffeine.

A note about peanuts: at one point the FSA advised that you may wish to avoid eating peanuts when you are pregnant in certain cases. This included if you have an atopic disease such as asthma, eczema or hay fever, or if a close family member has one of these conditions. This was because there was a concern that children could develop a peanut allergy as a result of their mother eating peanuts during pregnancy. However, in the light of new evidence, this advice was changed in December 2008. The FSA now advises that there is no need for women who are pregnant or breastfeeding, or who have children aged under 3 years, to change their diets in order to exclude peanuts.

Toxoplasmosis

Toxoplasmosis is an infection with a germ (bacterium) commonly found in raw meat and in sheep, lamb and cat poo (faeces). It can sometimes cause serious harm to an unborn baby. It can cause miscarriage, stillbirth, and abnormalities in the baby. To avoid it:

- Wash your hands after handling raw meat.
- Do not eat raw or undercooked (rare) meat.
- Wash salads and vegetables, as any dirt may have been contaminated by cat faeces.
- Wash your hands after handling pets or animals, especially cats and kittens.
- Get someone else to clean out any cat litter trays when you are pregnant.
- Always wear gloves when gardening.
- · Avoid sheep, especially during the lambing season.

General precautions for handling food

Always wash your hands before handling food. Thoroughly wash all fruit and vegetables before eating them. Make sure raw meat and pre-prepared raw ready meals are properly cooked. This reduces your risks of getting infections from food. Various germs (bacteria, viruses or similar) can cause food poisoning. Food poisoning causes tummy (abdominal) pain, runny stools (diarrhoea) and vomiting. Two germs that are of particular importance to avoid during pregnancy have already been mentioned - listeria and toxoplasma. It is possible that other food poisoning bacteria may also cause complications during pregnancy. For example, gut infection with bacteria called salmonella and campylobacter may be associated with an increased risk of pregnancy complications. So, it is wise to be extra vigilant about avoiding food poisoning.

Therefore, be strict about food hygiene:

- Always cook eggs and meat, including poultry, thoroughly.
- Wash fruit and vegetables.
- Wash your hands after going to the toilet, before handling food, before eating, after handling raw meat and after touching animals.

Medication

The effects of some prescribed medicines have been well studied and it is known that certain medicines are safe in pregnancy. For example, paracetamol at normal dose is safe and useful for headaches, backache and other aches and pains that may occur during pregnancy. However, for many medicines, it is not known for sure if they are safe or unsafe. So if you are pregnant, you should minimise your use of medication. This includes medicines that you can buy. Also, just because a medicine says it is herbal or natural, it does not necessarily mean that it is harmless or safe.

Always tell a doctor or dentist who prescribes medication for you that you are pregnant. Also, don't take medicines that you can buy over the counter (including herbal remedies) unless they are known to be safe in pregnancy. The pharmacist will advise.

Editor's Note

Dr Sarah Jarvis, 18th September 2019

Paracetamol in pregnancy

Paracetamol is widely used for headaches, backache and other aches and pains that may occur during pregnancy. A new study has looked at whether taking **paracetamol** between 18 and 32 weeks of pregnancy affects behaviour in your child after they are born.

The study suggested that young children were more likely to show signs of hyperactivity, attention problems, and other difficult behaviours if their mothers had taken paracetamol between 18 and 32 weeks of pregnancy. Most of the differences in behaviour were seen only in pre-school children - most had disappeared by the time children reached age 7-8 years and there was no evidence of a link by the time children reached the end of primary school.

This is what is called an 'observational study'. That means we can't know for certain if it was the paracetamol, rather than some other factor, that actually caused the problem.

However, as a result, doctors are likely to advise that you only take paracetamol if you really need to. You should also take the lowest dose you need for the shortest possible time. We have therefore changed the advice in this leaflet.

- Anti-inflammatory painkillers such as ibuprofen. You should not normally take these during pregnancy. Regular use during
 pregnancy may affect the large blood vessels of the developing baby.
- Laxatives. Constipation is common in pregnancy and you may need a laxative. At first it is best to try increasing the fibre in your diet and increasing the amount of non-alcoholic fluids that you drink. If this fails then fibre supplements such as bran, ispaghula and sterculia are safe. Fybogel® is one such example commonly used for constipation in pregnancy. If you need something stronger then it is best to discuss this with a doctor. Some laxatives such as docusate and lactulose may be prescribed safely for a short time.
- Antihistamines. These are commonly used for people with hay fever. Most manufacturers advise avoiding antihistamines in pregnancy. This is because there are no trials to show they are safe. However, there is no evidence of harm either.
- Decongestants such as pseudoephedrine and xylometazoline often bought for symptoms of the common cold are best avoided in pregnancy.

If you already take regular medication, ideally you will have discussed this with a doctor before becoming pregnant. If you have an unplanned pregnancy, discuss with your doctor as early as possible any medication that you take. In some cases, the risk of taking the medicine has to be balanced against the risk of not taking the medicine, and your condition not being treated.

Vitamins and supplements

Folic acid

You should take folic acid tablets (supplements). Ideally, do this from at least one month before you get pregnant, and continue taking them until at least the end of the 12th week of pregnancy - even if you are healthy and have a good diet. Folic acid is a naturally occurring vitamin found in spinach, sprouts, broccoli, green beans and potatoes. Some breads and breakfast cereals are fortified with folic acid. Because of the substantial benefits of folic acid, some countries routinely fortify staple foods, such as wheat, corn flour or rice, with folic acid. Currently there is debate as to whether the UK should follow suit and fortify certain common foods with folic acid. You need a good supply of folic acid when you are pregnant to help with the development of the baby. If you take folic acid tablets in early pregnancy you reduce the risk of having a baby born with a spinal cord problem such as spina bifida.

You can buy folic acid tablets from pharmacies. Also, in the UK, the NHS Healthy Start scheme provides vitamin supplements that contain folic acid. These are free to many women who are on certain benefits.

- For most women, the dose is 400 micrograms (0.4 mg) a day.
- If you have an increased risk of having a child with a spinal cord problem then the dose is 5 mg a day. You need a prescription for this higher dose that is, if:
 - You have had a previously affected pregnancy.
 - You or your partner have (or have a family with) a spinal cord defect.
 - · You are taking medication for epilepsy.
 - You are obese especially if your body mass index (BMI) is 30 or more.
 - You have coeliac disease, diabetes, sickle cell anaemia or thalassaemia.

Ideally, start taking folic acid tablets before becoming pregnant. The common advice is to start from the time you stop using contraception. If the pregnancy is unplanned then start taking folic acid tablets as soon as you know that you are pregnant.

Vitamin D

Editor's Note

Dr Sarah Jarvis, February 2019.

A new study has shown that getting enough vitamin D (and E) in pregnancy reduces the chance of your baby developing asthma in childhood. Low levels of vitamin D in pregnancy are also linked to higher levels of infection in your baby. Your pharmacist will be able to advise you on supplements containing vitamin D.

Vitamin D is needed for growth and supplements are recommended for all pregnant women, breastfeeding women and breastfed babies. The dose if you are pregnant or breastfeeding is 400 units (10 micrograms) daily. Some experts think that women who get little or no sunshine on their skin need a higher dose, such as 800 units (20 micrograms) daily. This is because most of the vitamin D that we get is made in the skin with the help of sunlight. Your doctor will advise.

In the UK, some women on certain benefits can get vitamin D supplements free on the Healthy Start scheme. Otherwise you will usually be advised to buy these supplements over the counter from a pharmacy.

lodine

lodine is known to be important for the healthy development of the brain of the fetus. A woman who is pregnant needs more iodine than usual to supply the developing fetus. If they do not have enough iodine, the baby may end up less intelligent than they otherwise would have been. Iodine mainly comes from milk, yoghurt, eggs and fish. Because iodine intake can be variable, some countries routinely fortify cereals and bread with iodine - but not the UK. Some salt contains iodine, but not all. Most people try to avoid using much salt in line with health recommendations. So there are concerns that some pregnant women may not be getting sufficient iodine in their diet. One recent study listed in 'Further reading & references' below suggests that all women should have iodine supplements in pregnancy. This decision has not been made for the UK but it may be worth considering whether your diet has enough iodine. You may wish to discuss this with your doctor or midwife.

Smoking

Women who are pregnant should avoid smoking, due to the damage it can cause the unborn baby. It can also have long-term effects on the health of your child after birth. Find out more in the separate leaflet called Pregnancy and Smoking. This outlines the harms resulting from smoking in pregnancy and how you can stop smoking.

Alcohol

Women who are pregnant should not drink alcohol. The reason for this is that alcohol can cause damage to a developing baby. Alcohol gets to a baby through the placenta if a pregnant woman drinks alcohol. A baby cannot process alcohol very well. So, any alcohol in your baby stays in its body much longer than in you. This is known to be a risk for causing serious problems. At worst, babies can develop a syndrome of severe abnormalities, called fetal alcohol syndrome. In others, alcohol can cause problems for the baby such as poor growth, premature labour and physical and mental disability.

Guidelines in the UK advise that women should drink no alcohol at all for the first three months of pregnancy. This is because it increases the chance of miscarriage. After this time it is still better to drink no alcohol at all, as it is not known what amount is safe. This probably varies between different people. Getting drunk and binge drinking are harmful to the baby. It is easy to underestimate how much you drink. It is safest to avoid alcohol altogether throughout pregnancy.

Find out more in the separate leaflet called Fetal Alcohol Syndrome.

Exercise

For most women, it is important to do some regular physical exercise during pregnancy as part of living a healthy lifestyle. There are some circumstances in which this may need to be modified, and there are some sports which are best avoided in pregnancy. Learn more in the separate leaflet called Pregnancy and Physical Activity.

Sex

Sex is safe for most couples during pregnancy. Later in pregnancy, sex and orgasm may provoke contractions known as Braxton-Hicks contractions. These make your bump feel hard. They can be uncomfortable but are quite normal. They usually pass after a few minutes.

Your doctor or midwife may advise you to avoid sex if you have had heavy bleeding in your pregnancy. This may also be the case if your waters have broken. This is because the protective barrier has gone, so having sex then may increase the risk of infection.

As the pregnancy progresses and the bump becomes bigger you may find some positions more difficult. You and your partner may need to experiment to find something that works for both of you.

Working during pregnancy

If you think that your job may pose a risk to a pregnancy then ideally you should discuss this with your employer before you become pregnant or as soon as you become pregnant.

Certain jobs and workplaces may pose a risk to a pregnancy, in particular to the early stages of pregnancy. For example:

- Raw meat is sometimes contaminated with germs (bacteria), such as listeria and toxoplasma. If these germs infect adults,
 they may cause listeriosis or toxoplasmosis but may cause little harm. However, these germs can cause serious problems to
 your unborn child if you become infected when you are pregnant.
- If you work with certain animals. For example:
 - You should avoid contact with sheep and lambs at lambing time. This is because some lambs are born contaminated with germs such as listeria, toxoplasma and chlamydia which may affect you and your unborn baby.
 - Cats and kittens often carry toxoplasma germs and these are especially found in cat poo (faeces). So, cleaning out cat litters and handling cats and kittens can be a risk.
- If your job puts you at risk of contracting hepatitis B, you should be immunised against this virus. For example, if you are a healthcare worker, or work at a daycare or residential centre. (Women with hepatitis B can pass on the infection to their child at childbirth.)
- If you work with chemicals, fumes, radiation, etc. Some may be toxic to an unborn baby.

The above are just examples. In short, if you think that your occupation may pose a risk to a pregnancy then you should discuss this with your employer before becoming pregnant. A change in job, or in working practice, may be necessary.

You and your employer may wish to download information guides from the Health and Safety Executive (HSE) website. They have an information line if you have a health and safety concern at work but do not wish to discuss your pregnancy or planned pregnancy with your employer.

Recreational drugs

The effects of all the different types of recreational (illicit) drugs on pregnancy are not fully known. However, there is an increasing amount of evidence to suggest that they are likely to pose a risk of damage to the baby. Examples include:

- If you take or inject heroin when you are pregnant it may increase the risk of:
 - Miscarriage.
 - Slowing the growth of the baby, leading to a low birth weight.
 - Premature labour, leading to the baby being 'prem'.
 - Stillbirth.
 - The baby having withdrawal symptoms after the birth.
- Using cocaine when you are pregnant is particularly hazardous. It may increase the risk of:
 - Serious life-threatening bleeding from the womb (uterus) in late pregnancy (placental abruption).
 - Miscarriage.
 - Slowing the growth of the baby, leading to a low birth weight.
 - Premature labour leading to the baby being 'prem'.
 - Stillbirth
 - Possibly, abnormalities of the baby when it is born.

The above are just two examples. There are many recreational drugs and it is beyond the scope of this leaflet to discuss each drug in turn. You can contact the FRANK website for information about individual drugs.

Some people can stop drugs without any help; however, many people will require help. If you are using drugs and cannot stop easily, see your doctor for help. Your doctor will be able to refer you to a local community drug team for help. Most community drug teams can:

- Offer treatment plans. For example, one option for people who use heroin is to take substitute therapy with methadone in place of injecting heroin. This option is safer than injecting heroin during pregnancy.
- Provide counselling and information.
- Provide harm-reduction activities such as needle exchange schemes.

Animals

Avoid contact with sheep and lambs at lambing time. This is because some lambs are born carrying the germs that cause listeriosis, toxoplasmosis and chlamydia. These may be passed on to you and your unborn baby. Toxoplasma is also found in cat poo. You should always wash your hands after handling cats and kittens and ask someone else to wash out cat litter trays.

Travel

In general it is safe to travel during pregnancy. When in a car, wear the seat belt so that the straps go above and below your bump, not across it.

Flying is not known to be harmful. Most airlines will not allow you to fly in the late stages of pregnancy. This is because planes are not the ideal place to go into labour, and they would prefer not to divert the flight to take you to the nearest hospital.

It makes sense not to travel to anywhere too remote and far from medical assistance, particularly in the early or later stages of pregnancy. Also not all travel vaccinations are safe to use in pregnancy, so consider your destination carefully. If possible avoid travel to destinations where malaria is prevalent, as pregnant women are more likely to be bitten and more likely to have complications if they develop the disease. Also avoid areas where Zika virus is circulating if possible, due to the risk of abnormalities in babies born to pregnant women who develop Zika. See the separate leaflet called Zika Virus for more information about this. The leaflet also provides advice about having sex with a man who has recently returned from a country where the Zika virus is going around.

Further reading & references

- Antenatal care for uncomplicated pregnancies; NICE Clinical Guideline (March 2008, updated 2018)
- Management of women with obesity in pregnancy, Royal College of Obstetricians and Gynaecologists and Centre for Maternal and Child Enquiries
- Pregnancy: occupational aspects of management, Royal College of Physicians and the Faculty of Occupational Medicine (2013)
- Weight management before, during and after pregnancy, NICE Public Health Guideline (July 2010)
- Antenatal care uncomplicated pregnancy, NICE CKS, July 2016 (UK access only)
- The Pregnancy Book; Dept of Health, 2009 (archived content)
- Physical Activity and Exercise During Pregnancy and the Postpartum Period; The American College of Obstetricians and Gynaecologists (ACOG) Committee Opinion, December 2015
- Eating while you are pregnant, Food Standards Agency
- UK Chief Medical Officers' Low Risk Drinking Guidelines; GOV.UK. August 2016

 De-Regil LM, Pena-Rosas JP, Fernandez-Gaxiola AC, et al; Effects and safety of periconceptional oral folate supplementation for preventing birth defects. Cochrane Database Syst Rev. 2015 Dec 14;12:CD007950. doi: 10.1002/14651858.CD007950.pub3.
- Monahan M, Boelaert K, Jolly K, et al; Costs and benefits of iodine supplementation for pregnant women in a mildly to moderately iodine-deficient population: a modelling analysis. Lancet Diabetes Endocrinol. 2015 Sep;3(9):715-22. doi: 10.1016/S2213-8587(15)00212-0. Epub 2015 Aug 9.
- Smoking: stopping in pregnancy and after childbirth; NICE Public Health Guidance (June 2010)
- De-Regil LM, Palacios C, Lombardo LK, et al; Vitamin D supplementation for women during pregnancy. Cochrane Database Syst Rev. 2016 Jan 14; (1):CD008873. doi: 10.1002/14651858.CD008873.pub3.
- Jahanfar S, Jaafar SH; Effects of restricted caffeine intake by mother on fetal, neonatal and pregnancy outcomes. Cochrane Database Syst Rev. 2015 Jun 9;(6):CD006965. doi: 10.1002/14651858.CD006965.pub4.
- Chen LW, Wu Y, Neelakantan N, et al; Maternal caffeine intake during pregnancy is associated with risk of low birth weight: a systematic review and dose-response meta-analysis. BMC Med. 2014 Sep 19;12:174. doi: 10.1186/s12916-014-0174-6.
- Patternore PK; Tobacco or healthy children: the two cannot co-exist. Front Pediatr. 2013 Aug 23;1:20. doi: 10.3389/fped.2013.00020.
- Chamberlain C, O'Mara-Eves A, Porter J, et al; Psychosocial interventions for supporting women to stop smoking in pregnancy. Cochrane Database Syst Rev. 2017 Feb 14;2:CD001055. doi: 10.1002/14651858.CD001055.pub5.
- Use of electronic cigarettes in pregnancy. Aguide for midwives and other health professionals; The Smoking in Pregnancy Challenge Group
- E cigarettes in pregnancy; The Centers for Disease Control and Prevention (CDC)
- E-cigarettes: an evidence update; Public Health England, August 2015
- Evenson KR, Barakat R, Brown WJ, et al; Guidelines for Physical Activity during Pregnancy: Comparisons From Around the World. Am J Lifestyle Med. 2014 Mar;8(2):102-121.
- Newton ER, May L; Adaptation of Maternal-Fetal Physiology to Exercise in Pregnancy. The Basis of Guidelines for Physical Activity in Pregnancy. Clin Med Insights Womens Health. 2017 Feb 23;10:1179562X17693224. doi: 10.1177/1179562X17693224. eCollection 2017.
- Harrison AL, Shields N, Taylor NF, et al; Exercise improves glycaemic control in women diagnosed with gestational diabetes mellitus: a systematic review. J Physiother. 2016 Oct;62(4):188-96. doi: 10.1016/j.jphys.2016.08.003. Epub 2016 Aug 22.
- Leaflets and Resources; National Organisation for Foetal Alcohol Syndrome UK (NOFAS-UK)
- Fetal Alcohol Spectrum Disorders; Centers for Disease Control and Prevention
- Blackburn C et al; Facing the challenge and shaping the future for primary and secondary aged students with Foetal Alcohol Spectrum Disorders (FAS-eDProject) Literature Review, National Organisation for Foetal Alcohol Syndrome - UK, September 2009
- Prospective study of correlation between maternal intake of Vitamins D and E and incidence of asthma in children under 15.
- Golding J, Gregory S, Clark R, et al; Associations between paracetamol (acetaminophen) intake between 18 and 32 weeks gestation and neurocognitive outcomes in the child: Alongitudinal cohort study. Paediatr Perinat Epidemiol. 2019 Sep 15. doi: 10.1111/ppe.12582.

Disclaimer: This article is for information only and should not be used for the diagnosis or treatment of medical conditions. Patient Platform Limited has used all reasonable care in compiling the information but makes no warranty as to its accuracy. Consult a doctor or other healthcare professional for diagnosis and treatment of medical conditions. For details see our conditions.

Author: Dr Mary Harding	Peer Reviewer: Dr Jacqueline Payne	
Document ID: 28461 (v4)	Last Checked: 09/08/2017	Next Review: 08/08/2020

View this article online at: patient.info/pregnancy/diet-and-lifestyle-during-pregnancy

Discuss Diet and Lifestyle during Pregnancy and find more trusted resources at Patient.



Book appointments, order repeat prescriptions and view your medical record online To find out more visit www.patientaccess.com or download the app





© Patient Platform Limited - All rights reserved.