



Dear
mama-to-be.
Your love is unique,
so is our care.
With love. **mama
Protinex**

A guide to

Healthy Pregnancy

Congratulations, you're *Pregnant!*

You may now wonder how the days ahead will be like. Don't worry! If you know what changes can happen during pregnancy, it can help you face the months ahead with confidence.



Pregnancy has three trimester-What are these?

The entire duration of your pregnancy is divided into three trimester as follows:

1 Trimester	2 Trimester	3 Trimester
Begins from the first day of your last period and lasts till the end of the week 13 ¹	Begins from week 14 and lasts till the end of week 26 (consists of 4 th , 5 th and 6 th completed months of pregnancy) ¹	Begins from the week 27 and ends anywhere between week 38, week 42 (consists of 7 th , 8 th and 9 th completed months of the pregnancy) ¹

Changes that you may experience during the first trimester



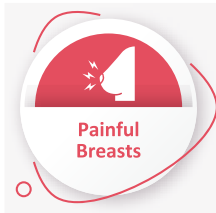
Bleeding

- Some may bleed slightly during the first trimester²
- No need to worry; light spotting may indicate that the fertilized embryo had got attached to the wall of uterus²



What you can do

- Call your doctor immediately if you have...
 - Increased bleeding²
 - Cramps or sharp pain in the abdomen; this could be a sign of miscarriage or ectopic pregnancy (embryo getting implanted outside the uterus)²



Painful Breasts

- One of the earliest signs of pregnancy, which can last till the last trimester²
- Occurs because of hormonal changes, which are preparing your milk ducts to feed your baby²



What you can do

- Increase your bra size and wear a more supportive bra²



Constipation

- High hormone levels during pregnancy may arise due to changes in muscle relaxing hormone²
- Your iron supplements may also lead to constipation²



What you can do

- Eat fiber-rich diet²
- Drink lots of fluids²
- Increase physical activity²



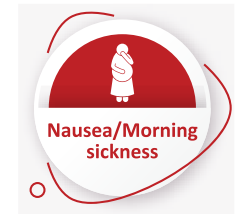
Fatigue

- Your body is working hard to support a growing baby; it is common to feel exhausted²



Food cravings and aversions

- Craving for food is common in some, while some may dislike food²
- Craving from time to time is normal, provided you are having healthy, low-calorie foods²



Nausea/Morning sickness

- Nausea is very common and occurs due to hormonal changes in your body and usually worst in the morning²
- Nausea may be a warning sign that you are experiencing a protein-deficiency³



What you can do

- Make sure you eat a healthy diet rich in protein and iron and get plenty of rest and sleep³
- Take iron supplements as prescribed by your doctor, as too little can lead to anemia (decreased in the amount of red blood cells or haemoglobin in the blood) and, thereby increasing the fatigue²



What you can do

- If you experience craving for non-foods like clay, dirt, etc., then report to your doctor immediately, as this could be dangerous for you and your baby²

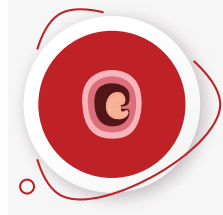


What you can do

- Eat small, frequent meals throughout the day⁴
- Eat foods low in fat and easy to digest⁴
- Eat meals high in protein⁵
- If your diet is low in protein, take protein supplements after consulting your doctor⁶
- Avoid smells such as cigarette smoke or perfume that can worsen your nausea⁴
- Drink plenty of fluids (clear fruit juice like apple)^{2,4}
- Avoid coffee/fluids containing caffeine and alcohol⁵



Growth and Development of your baby during the 1st Trimester



At the end of the first month

- Amniotic sac (water-tight sac) forms around the fertilized egg⁷
- A round, flat organ called placenta which transfers nutrients from the mother to the baby and transfers waste from the baby, develops by the end of the first month⁷
- By the end of the first month, your baby is around 6-7 mm (1/4 inch) long-about the size of a grain rice⁷



Week 8 2nd month

- Facial features continue developing⁷
- Tiny buds start forming which eventually grow into arms and legs⁷
- Fingers, toes and eyes also start forming⁷
- Neural tube (brain, spinal cord and other neural tissue of the central nervous system) is well formed⁷
- By the end of this month, your baby is a fetus about 2.54 cm (1 inch) long and weighs about 9.45g⁷



Week 12 3rd month

- Your baby is fully formed by the end of the third month⁷
- Although the reproductive organs develop, the baby's gender is difficult to distinguish on ultrasound⁷
- Circulatory and urinary system starts working and the liver produces bile⁷

Eat well during the 1st Trimester



Remember that the food you eat is the main source of nutrition for your baby and can help you grow well. Hence, one of the best things that you can do for your baby is to eat a healthy diet during the first trimester.⁸



- Your protein requirements during pregnancy increases to help develop your baby and the placenta (organ which connects the developing baby with wall of the uterus)⁹
- Protein supplements helps to improve your baby's growth, increase birth weight and height, and lower the chances of your baby being born with low birth weight¹⁰
- Also, protein helps you to fight against nausea³ and fatigue (due to anaemia)⁵
- **How much do you need:** Your individual protein requirement depends on your body weight.¹¹ Generally, you need 46 g/day of protein intake in this trimester¹²
- **Good food sources:** Seafood, lean meat and poultry, eggs, dairy products, beans and peas, soy products and unsalted nuts and seeds¹³

Helpful tip

- 90% of Indian pregnant woman are deficient in protein. Check with your nutritionist about your protein intake or deficiency and need for protein supplements.*



- Folate is required for normal development of your baby's brain, skull and spinal cord. May also prevent preterm/low birth delivery¹⁴
- **How much do you need:** 570 mcg per day¹²
- **Good food sources:** Dark green leafy vegetables, broccoli, cabbage, lettuce, avocado, asparagus, pulses (chickpea, i.e. chana, beans, lentils), orange, orange juice and eggs¹⁴

Helpful tip

- As folic acid is easily lost during cooking, it is advised to steam or cook vegetables using minimal water for a short time¹⁴



Eat well during the 1st Trimester



Iron

- Iron can prevent anemia and infection; it can support your baby's growth and brain development¹⁴
- **How much do you need:** During the entire pregnancy period, you need 27 mg of iron every day¹²
- **Good food sources:** Meat, organ meat, egg yolk, fish, pulses, beans, dark green leafy vegetables, watermelon, dried dates and jaggery¹⁴

Helpful tips

- For better absorption of iron and vitamin C rich food (amla, orange, lemon, guava, strawberry, melon, bell peppers and tomato)¹⁴
- Avoid coffee/tea 1 hour before and after having an iron-rich meal¹⁴



Calcium

- Your baby builds its bones through calcium in your blood¹⁵
- Your baby's heart, nerves and muscles depends on calcium for growth¹⁵
- If the calcium intake is not enough, even your bone health is at risk¹⁵
- **How much do you need:** The recommended intake of calcium during pregnancy is 1000 mg/day¹²
- **Good food sources:** Low fat dairy products (skimmed milk, low-fat cheese, yogurt), dark green leafy vegetables, ragi (nachini), egg yolk, mutton, fish, nuts, pulses and beans, soy beans and green leafy vegetables¹⁴

Helpful tips

- Calcium supplement can help you meet nutrition needs during pregnancy¹⁴
- Sufficient vitamin D intake also helps in calcium absorption¹⁵

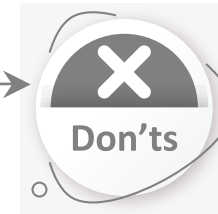


Do's and Don'ts during the 1st Trimester



Do's

- Attend regular antenatal visit¹⁶
- Take folic acid tablets throughout pregnancy, as it lowers the risk of birth defects in your baby¹⁶
- Be careful with medicines; consult your doctor for the same¹⁷
- Eat variety of healthy foods and get all the essential nutrients¹⁶
- Ask your doctor about taking a daily prenatal vitamin or iron supplement¹⁶
- Aim for 7-9 hours of sleep every night. Rest on your left side, as it can increase the blood flow to you and your baby and prevent swelling¹⁶
- Do gentle exercise daily after discussing with your doctor¹⁷
- Take care of your oral health; pregnancy is known to increase your chances of developing gum diseases¹⁷



Don'ts

- Don't expose yourself to environmental pollution and toxins present in household items (eg. Pain relieving or cleaning products)¹⁷
- Do not smoke¹⁷
- Avoid intake of alcohol, as it can increase the risk of miscarriage and lead to mental and physical impairment of your baby¹⁷
- Avoid stress, as it can affect your baby's health¹⁷
- Never go on a diet, as it may cause shortage of nutrients and can risk your and your baby's health¹⁷



Welcome to the 2nd Trimester

The easiest 3 months of pregnancy. The good news is that the worst episodes of morning sickness and fatigue are over. Your energy levels will go up. Yet, big changes are still taking place in your body. Read on to know more...

Changes that you may experience during second trimester:

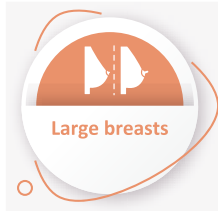


Backache

- The extra weight gained in the past months may put pressure on your back, making it painful and sore¹⁸

What you can do

- Sleep on your left side with a pillow between your legs¹⁸
- Do not pick up or carry anything heavy¹⁸



Large breasts

- Your breasts keep growing due to more fat storage; they are also getting ready to produce milk¹⁸

What you can do

- Increase your bra size¹⁸
- Wear a good support bra¹⁸

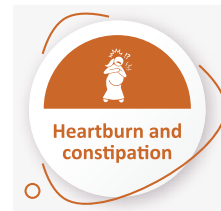


Nose block and bleeding

- Hormonal changes may lead to snoring stuffy nose and nose bleeding¹⁸

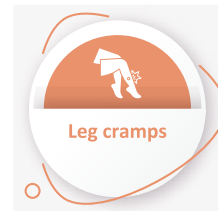
What you can do

- Inhale steam¹⁸
- To stop nosebleed: Keep head straight; apply pressure to the nose for few minutes till bleeding stops¹⁸



Heartburn and constipation

- Your hormonal changes may sometimes cause burning feeling in your chest; this is normal and there is no need to worry¹⁸
- Hormonal changes can also affect food movements through intestine, leading to constipation¹⁸



Leg cramps

- These are common, especially at night, as pregnancy progresses¹⁹



Braxton Hicks contractions

- To become stronger for delivery, your uterus might start contracting (called Braxton Hicks contractions)¹⁹
- These are weak contractions and these will come and go at any time¹⁹

What you can do

- To relieve heartburn:
 - Take more frequent, smaller meals throughout the day¹⁸
 - Avoid greasy, spicy and acidic foods¹⁸
- For constipation:
 - Eat fibre-rich diet¹⁸
 - Drink lots of fluids¹⁸
 - Be physically active¹⁸



Spider and varicose veins

- Your body will send extra blood to your growing baby, causing tiny red veins on your skin known as 'spider veins' (these will fade slowly after childbirth)¹⁸
- Your growing baby can put pressure on your legs and slow down the blood flow to this area, leading to swollen and blue/purple veins (called varicose veins)¹⁸

What you can do

- Prevent varicose veins from getting worse by:
 - While sitting for longer hours, raise your legs on a stool with proper back support¹⁸
 - Varicose veins should improve within 3 months after you delivery baby¹⁸

What you can do

- To prevent leg cramps:
 - Stretch calf muscles before sleeping¹⁹
 - Drink lot of fluids¹⁹
- If you get leg cramps:
 - Stretch calf muscle on the affected side¹⁹
 - Take hot shower, warm bath or ice massage¹⁹

What you can do

- Consult your doctor immediately if the contractions become painful or regular, as this could be a signal of preterm labor¹⁹



Growth and Development of your baby during the 2nd Trimester



Week 16 4th month

- Your baby's fingers and toes are well defined²⁰
- Nervous system starts functioning²⁰
- Reproductive organs and genitals are fully developed²⁰
- Heartbeat of your baby may be audible through an instrument called a Doppler²⁰
- By the end of the 4th month, your baby is around 6 inches long & weighs about 113.40g²⁰



Week 20 5th month

- Hair begins to grow on your baby's head, and a soft fine hair covers his or her outer body area²⁰
- Baby's skin gets covered with a whitish coating (vernix caseosa)²⁰
- You may now feel the movement of your baby²⁰
- By the end of the 5th month, your baby is around 10 inches long and weighs from 226.80 g to 453.60g²⁰



Week 24 6th month

- Your baby's skin is reddish in colour, wrinkled and veins are visible through the skin²⁰
- Eyelids begin to separate and the eyes open out²⁰
- By the end of the 6th month, your baby is around 12 inches long and weighs about 907.20g²⁰



Eat well during the 2nd Trimester



Exercise can raise your energy level and help you sleep well at night. It will also prepare your body for delivery and will help to avoid excess weight gain. Always warm up before any exercise and stop the exercise if you experience pain or shortness of breath²¹



- Your protein requirements during pregnancy increases to help develop your baby and the placenta⁹
- Protein supplements helps to improve your baby's growth, increase birth weight and height, and reduce the chances of your baby being born with low birth weight¹⁰
- Also, protein helps you to fight against nausea²² and fatigue (due to anemia)²³
- **How much do you need:** Your individual protein requirement depends on your body weight¹¹. Generally for protein, you need, 46 g/day and additional intake of 9.5 grams/day¹²
- **Good food sources:** Seafood, lean meat and poultry, eggs, beans and peas, soy products, unsalted nuts and seeds and dairy products¹³

Helpful tip

- 90% of Indian pregnant woman are deficient in protein. Check with your nutritionist about your protein intake or deficiency and need for protein supplements*



- Helps to form collagen (a structural protein) that helps in formation of cartilage, tendons, bones and skin of your baby¹⁴
- **How much do you need:** Generally for Vitamin C, you need, 65 mg/day and an additional intake of 15 mg/day¹²
- **Good food sources:** Citrus fruits, bell peppers, green beans, strawberries, papaya, potatoes, broccoli, tomatoes¹⁴

Helpful tip

- Add a Vitamin C-rich food with or just after your meal for better absorption of iron¹⁴

Eat well during the 2nd Trimester



Omega-3 fatty acid

- Plays an important role in the development and function of brain, nerves and eyes. Enhances memory & cognitive function and may protect against preterm delivery & low birth weight baby²⁴
- **Good food sources:** Fishes like mackerel, tuna, salmon, sardines, egg yolk, shrimps and DHA supplements²⁵, vegetables oils like flaxseed, canola and soybeans²⁶
- **How much do you need:** 200 mg/day²⁷

Helpful tip

- Limit the intake of types of fish that are high in mercury²⁵



Vitamin A

- Important for the development of the heart, lungs, kidneys, eyes, and bones and the circulatory, respiratory and central nervous systems of your baby²⁴
- Helps in maintaining normal vision, in fighting against infection, and fat metabolism²⁴
- **Good food sources:** Organ meat, red, yellow and orange fruits and vegetables, eggs, fish, dairy products, butter and ghee²⁸
- **How much do you need:** 900 µg/d (retinol)¹²

Helpful tip

- There is no need of Vitamin A supplement during pregnancy, as plenty of Vitamin A is obtained through diet²⁴



Do's and Don'ts during the 2nd Trimester



Do's

- Regularly visit your doctor²⁹
- Get your tests done as advised by your doctor²⁹
- Increase your protein intake²⁹
If your diet is deficient in protein, then asks your doctor for supplements²⁹
- Gain weight gradually²⁹
- Keep yourself active-exercise regularly, as advised by the doctors²⁹



Don'ts

- Don't sleep on your back; sleep on your left side²⁹
- Don't smoke as it can affect your baby's health²⁹
- Don't drink alcohol, as it can harm your baby's mental and physical growth²⁹
- Don't take any medication without consulting your doctor, as medicines can reach your baby's blood easily²⁹



You have waited for months to reach your 3rd Trimester

And now is the time to add finishing touches to your baby's development. These three months can be very tough to face due to your baby's big size and position, but always remember – your due date is just around the corner; and soon, it will be time to hold that baby in your arms!³⁰

Changes that you may experience during third trimester

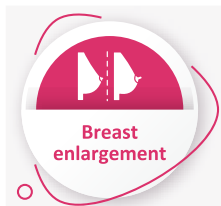


Backache

- Your back may hurt due to extra weight gained now³¹
- Hormonal changes relax the joints between your pelvic bones, which may cause discomfort in your pelvic area. This is to prepare your body for labor³¹

What you can do

- Sit straight and use a chair with good back support³¹
- Sleep on your side with a pillow between your legs³¹



Breast enlargement

- Your breasts now weigh an extra 1 kg weight³¹
- As the due date comes close, some yellowish fluid starts leaking from your nipples³¹
- This liquid called colostrum will nourish your baby in the first few days after birth³¹



Bleeding

- It is a cause of concern and danger to your child; it could be a sign of preterm labor³¹

What you can do

- Consult your doctor immediately if you notice any spotting³¹



Vaginal discharge

- More vaginal discharge is common now³¹
- A thick, clear, or slightly blood-tinged discharge is a sign that your cervix has started dilating for labor³¹



Braxton Hicks contractions

- These mild contractions feel like labor, but they are just warm-ups before actual labor³¹
- True labor contractions are longer, more intense and closer together³¹

What you can do

- Consult your doctor immediately if your face turns red and you feel shortness of breath after your contractions³¹



Frequent urination

- Your baby's head puts pressure on your urinary bladder making you go to the bathroom more frequently³¹
- You may also experience leakage of urine on coughing, sneezing, laughing or exercising³¹



What you can do

- Wear a supportive bra³¹



What you can do

- Consult your doctor immediately if you notice a sudden rush of fluid³¹



What you can do

- Go to the bathroom whenever you feel the urge of urination³¹
- Avoid drinking fluids just before going to sleep³¹
- Consult your doctor if you experience pain or burning with urination; this can be a sign of infection³¹

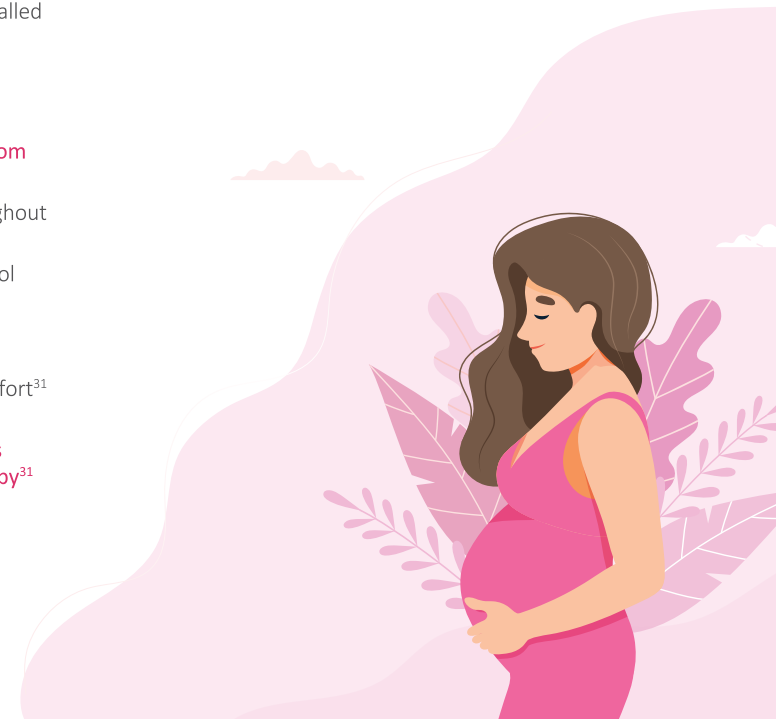


Spider and varicose veins

- Your body will send extra blood to your growing baby, causing tiny red veins on your skin known as 'spider veins' (these will fade slowly after childbirth)³¹
- Your growing baby can put pressure on your legs and slow down the blood flow to this area, leading to swollen and blue/purple veins (called varicose veins)³¹

What you can do

- Prevent varicose veins from getting worse by:
 - Moving as much throughout the day³¹
 - Raising up legs on a stool while sitting for longer hours³¹
 - Wearing compression stockings for extra comfort³¹
- Varicose veins should improve within 3 months after you deliver your baby³¹



Growth and Development of your baby during the 3rd Trimester



Eat well during the 3rd Trimester



Week 28 7th month

- At the end of this month, fat starts to deposit on your baby³²
- Your baby's hearing is fully developed and he or she can frequently change position and respond to stimuli, including sound, pain and light³²
- Your baby is around 14 inches long and weighs from about 900-1800g³²



Week 32 8th month

- Your baby continues to mature and develops body fat mature reserves³²
- You may notice that your baby is kicking more³²
- Your baby's brain is developing fast at this time and he or she can see and hear³²
- Most of the internal organs are well developed; however the lungs may still be immature³²
- Your baby is around 18 inches long and weighs as much as about 2270g³²



Week 36 9th month

- Your baby continues to grow and mature³²
- Lungs are nearly fully developed³²
- Your baby drops down in your pelvis and usually his or her head is faced down towards the birth canal³²
- Your baby is around 18-20 inches long and weigh about 3200g³²



- Continue eating protein to help develop your baby and the placenta (organ which connects the developing baby with wall of the uterus)⁹
- Protein supplementation helps to improve your baby's growth, increase birth weight and height and reduce the chances of your baby being born with low birth weight¹⁰
- Also, protein helps you to fight against nausea²² & fatigue (due to anaemia)²³
- **How much do you need:**
 - Your individual protein requirement depends on your body weight.¹¹
 - Generally, you need 22g/day of additional protein in this trimester¹²
- **Good food sources:** Seafood, lean meat and poultry, eggs, beans and peas, soy products, unsalted nuts and seeds and dairy products¹³

Helpful tip

- 90% of Indian pregnant woman are deficient in protein. Check with your nutritionist about your protein intake or deficiency. If your diet is deficient in protein ask your doctor for protein supplementation*



- Iron-rich foods can prevent anaemia and infections³³
- It can support your baby's growth and brain development³³
- **How much do you need:** During the entire pregnancy period, 27 mg/day of iron is needed¹²
- **Good food sources:** Non-vegetarian sources (lean meat, skinless chicken, fish, turkey, well-cooked eggs), vegetarian protein sources (pulses, legumes, nuts, green leafy vegetables, cereals)³³

Helpful tip

- For better absorption of iron, add vitamin C-rich fruit with or just after your meal³³
- Avoid tea 1 hour before and 1 hour after having an iron-rich meal³³



Eat well during the 3rd Trimester



- Calcium is needed for healthy bones of your baby¹⁵
- Your baby's heart, nerves and muscles depend on calcium for growth¹⁵
- If the calcium intake is not enough, even your bone health may be at risk¹⁵
- **How much do you need:** The recommended intake of calcium during pregnancy is 1000 mg/day¹²
- **Good food sources:** Low fat dairy products (skimmed milk, low-fat cheese, yogurt) fish with edible bones like sardines, tofu (a vegetable protein made from soybeans), breakfast cereals and bread, plain almonds, oranges, dried fruits (e.g., apricots), and green leafy vegetables³³

Helpful tips

- Calcium is best obtained through food sources. Yet, a calcium supplementation can help you in meeting nutrition needs during pregnancy³³
- Sufficient vitamin D intake also helps in calcium absorption³³



Do's and Don'ts during the 3rd Trimester



- Do check regularly for your baby's movement's; visit your doctor immediately if you don't feel the movement of your baby³⁴
- Continue taking a balance and healthy diet³⁴
- Try to eat iron-rich foods, as your baby will take iron store from your body³⁴
- Increase your protein intake to help rapid growth and development of your baby³⁵
- If your diet is deficient in protein, ask your doctor for supplements³⁶
- Learn to recognize the signs of labor and how to cope with labour pain³⁴
- Continue exercising; stretching exercises can make your body ready for childbirth³⁴

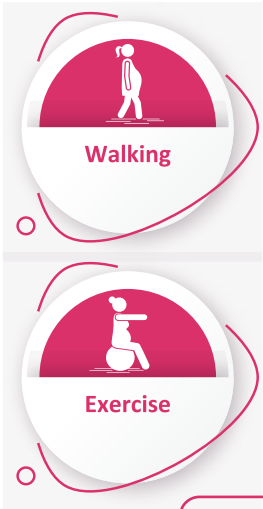


- Avoid an uncomfortable chair while working; use an adjustable chair with good lower back support or use a small pillow to provide support to your back³⁶
- Don't cross your legs while sitting³⁶
- Don't stand for long hours; support your leg on a stool if you need to stand for a longer time. Take frequent breaks³⁶
- Avoid twisting your body while lifting³⁶
- Don't forget to consult your doctor if you have headache, blurred vision and swollen hands and feet³⁴
- Don't forget to talk to your baby, as he/she can hear your voice; as talking helps start the bonding process³⁴



Exercises which you can do during pregnancy

Exercise can raise your energy level and help you sleep well at night. It will also prepare your body for delivery and will help to avoid excess weight gain. Always warm up before any exercise and stop the exercise if you experience pain or shortness of breath³⁴



- Walking helps the heart and lungs work more efficiently with minimal stress on your joints³⁴
- **Other choices:** Swimming, low-impact aerobics and cycling on a stationary bike and yoga³⁴
- Aim for at least 30 minutes of moderate intensity activity, on most, if not all, days of the week³⁴

- Practise squats to make it easier during labor, try to squats using a fitness ball³⁷
- **Other options:** Horizontal cycling (lie on the mat, and do air cycling with both legs) and side raises (lie on your side and lift your legs up and down)³⁸

Helpful tips

- Don't lie on your stomach³⁸
- Wear comfortable clothing while exercising³⁸
- Avoid exercises that involve jumping³⁸
- Drink water during exercises³⁸

Discuss with your doctor before starting any exercise, especially if:

- A history of premature baby or bleeding in previous pregnancies³⁶
- You have high blood pressure which can't be controlled with medication, or pre-eclampsia (that is, high blood pressure and protein in the urine)³⁶
- You are expecting twins³⁶
- You have diabetes which is poorly controlled³⁶
- Your baby's growth is not normal³⁶



Stop exercising immediately if you experience any of the following symptoms

- Dizziness or light headedness³⁹
- Headache³⁹
- Nausea or vomiting³⁹
- Unusual vaginal discharge or bleeding³⁹
- Abdominal pain³⁹
- Low back pain³⁹
- Fatigue³⁹
- Chest, leg, joint and stomach pain³⁹
- Shortness of breath³⁹
- Difficulty while walking³⁹
- Uterine contractions³⁹



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