

# Pamphlet #12: Pregnancy and Asthma

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Pregnancy can be a time of great joy and potentially also of great stress. If you have asthma, you may wonder how your asthma will be affected by pregnancy; how asthma may affect your pregnancy, labor and delivery, and breast feeding; and especially how your asthma and the medications that you take to treat it may affect your growing baby. This pamphlet has been created to help answer these questions for you. Additional resources are listed at the end of the pamphlet.

Asthma is the most common chronic disease in pregnancy. Up to 13% of pregnant women have asthma. Based on decades of research, we know that the course of asthma in pregnancy can be variable, with approximately 1/3 of pregnant women experiencing that their asthma gets better, 1/3 that it gets worse, and 1/3 that it stays about the same. It is impossible to completely predict in advance the course that your asthma will take during pregnancy. However, if your asthma is poorly controlled prior to pregnancy, you will likely be at increased risk for exacerbations of your asthma during pregnancy.

The “bottom line”: good asthma control during your pregnancy is important for both mother and baby, for many reasons that we will discuss in this pamphlet. It is important to work with your medical providers to optimize your asthma care and stay free of serious asthma exacerbations. We encourage you to know what symptoms to look for and how to manage them safely and effectively for your health and that of your baby.

## **Normal breathing changes during pregnancy**

It is important to note that normal pregnancy is commonly associated with shortness of breath in the absence of asthma. Up to 70% of all pregnant women feel short of breath by the third trimester! There are many normal changes that happen in your body that may cause this sensation of breathlessness. As your pregnancy progresses, your uterus enlarges and pushes up on your lungs and respiratory muscles, creating less space for the lungs to expand. Due to an increase in demands on your body and increasing levels of hormones, your body is working harder and consuming more oxygen. As a result, your body needs to breathe more to compensate. All these changes cause a very normal sensation of breathlessness that can begin very early in pregnancy and tends to peak in the third trimester. As a result, it is important for you to be able to tell the difference between what may be the normal breathlessness of pregnancy and what is abnormal shortness of breath caused by your asthma. Signs that would

be concerning for an asthma exacerbation and not attributable to normal shortness of breath of pregnancy include symptoms such as cough, wheezing, and chest tightness.

Note that during pregnancy, even late in pregnancy when the enlarged uterus seems to leave no room for your lungs, your ability to exhale air rapidly from your lungs does not change. Monitoring your lung function can happen in the office or at home and can be useful to differentiate the normal shortness of breath of pregnancy from asthma. If you use a peak flow meter at home, note that your peak flow should remain normal or at your baseline throughout pregnancy. That is to say, significant decreases in peak flow or other breathing measures used in the office cannot be attributed to pregnancy. If present, they are due to changes in your breathing tubes – that is, due to your asthma. (See Pamphlet #7: “Asthma and Peak Flow Monitoring.”)

## How asthma and pregnancy affect each other

As mentioned earlier, asthma control during pregnancy can vary from person to person. The exact mechanisms that cause asthma changes during pregnancy are not completely understood, but it is theorized that increasing levels of maternal hormones (estrogen and progesterone) have a complicated relationship with the immune system as well as with the muscles surrounding the airways, which can impact asthma control. Because of the uncertainty of who will improve or worsen during pregnancy, it is important to follow closely with your asthma providers. This way, any change in your symptoms can be matched by a timely and appropriate change in your medications.

Exacerbations tend to happen most frequently in the second trimester. Risk factors for an asthma exacerbation during pregnancy include smoking, excessive weight gain during pregnancy, advanced maternal age, viral infections, not taking prescribed asthma medications, and uncontrolled acid reflux (also known as gastroesophageal reflux disease or GERD). Research has shown repeatedly that poorly controlled maternal asthma is associated with worse outcomes for both mother and baby, as highlighted in the Table below. Research has also shown that good asthma control reduces the risk of these complications. Therefore, it is imperative to employ successful strategies to try to prevent exacerbations, and when they do happen, to treat them early, thereby preventing the severe exacerbations that can deprive the developing fetus of the oxygen that it needs to grow.

<b>Pregnant women with asthma that is poorly controlled are at increased risk of:</b>
Preterm birth
Low birth-weight child
Pre-eclampsia (a type of high blood pressure that can lead to serious medical complications for mother and baby during pregnancy)
Gestational diabetes (that is, diabetes during pregnancy)
Cesarean delivery
<b>Keeping asthma well-controlled during pregnancy reduces the risk of all these complications.</b>

## Prevention of asthma exacerbations during pregnancy

### *Triggers*

It is always important to avoid asthma triggers, but it becomes even more important when you are pregnant.

Respiratory viral infections are the most common trigger for asthma in pregnancy. Therefore, stay away from people you know are sick, and when you are unable to avoid sick contacts, wear a facemask. Check in with your medical providers to make sure you are up to date with all of your recommended vaccines. Pregnant women with asthma should be sure to get their annual flu (influenza) vaccines. The flu can be particularly severe in women who are pregnant and even worse in those with asthma.

Giving up cigarette smoking is very important in pregnancy for maternal and fetal health, but particularly so in a person with asthma. A person with asthma who smokes is almost two-and-a-half times more likely to have an exacerbation than someone with asthma who does not smoke.

Avoiding other common triggers such as dust, mold, or whatever you know it is that sets off your asthma, such as perfumes or strong cleaning agents, will also lead to success.

Exercise is the one asthma trigger that we encourage during pregnancy. If needed, use your quick-acting bronchodilator prior to exercise to prevent exercise-induced tightening of your bronchial tubes, and stay active and fit!

### *Other Associated Chronic Conditions*

Certain uncontrolled chronic medical conditions can also lead to worsened asthma control during pregnancy (and in asthma in general). Making sure your acid reflux and post-nasal drip are being managed well can sometimes be the only thing you need to avoid extra asthma medications during your pregnancy. Pregnant women are predisposed to worsening of their acid reflux and nasal symptoms due to hormonal changes. Certain non-pharmacologic strategies that can be employed for acid reflux include sleeping with your head elevated at night, not eating too close to bedtime, and careful dietary choices. Head elevation at night is also helpful for post-nasal drip, as are salt-water (saline) nasal rinses. If these basic measures do not work, it is helpful to discuss next steps with your medical provider as there are many over-the-counter and prescription medications that may help and that are safe for both mother and baby during pregnancy.

## Treatment of asthma during pregnancy

Fortunately, most of the medications used to treat asthma are considered safe for use during pregnancy and breastfeeding. If you are considering becoming pregnant or are pregnant, it is important to discuss your treatment plan with your asthma provider. In general, the short-acting inhaled bronchodilators (for example, albuterol and levalbuterol); inhaled corticosteroids (for example, beclomethasone, budesonide, ciclesonide, fluticasone furoate, fluticasone propionate, and mometasone); and long-acting beta-agonist bronchodilators in combination with an inhaled corticosteroid (for example, *Advair*<sup>®</sup>, *AirDuo*<sup>®</sup>, *Breo*<sup>®</sup>, *Breyna*<sup>®</sup>, *Symbicort*<sup>®</sup>, *Dulera*<sup>®</sup>, *Wixela*<sup>®</sup>) are all considered to be safe. A large registry of pregnant women documented the safety during pregnancy of the inhaled steroid, budesonide (*Pulmicort*<sup>®</sup>); and some medical providers may prefer this particular inhaled steroid for use during pregnancy. The leukotriene inhibitor, montelukast, has also been studied and is considered safe in pregnancy. In general, it is best for you to continue the asthma inhalers that you were on prior to pregnancy rather than trying to stop them, because worsened asthma control is the biggest risk to you and your developing fetus, far greater than any theoretical risk to the fetus from the medications that you inhale onto your breathing tubes.

For a severe exacerbation of asthma symptoms, the mainstay of treatment is oral steroids, such as prednisone or *Medrol*<sup>®</sup>. In large studies, oral steroids administered during the first trimester were found to be associated with a small increased risk of fetal cleft lip or palate. Smaller studies found a slightly increased risk of premature delivery and low birth weight. However, the study researchers were not able to rule out the possibility that these findings were more due to the mothers' asthma severity rather than the steroids themselves. Indeed, large studies examining the risk of preterm delivery in mothers with asthma found that the risk stayed normal with active management of their asthma. In other words, there is likely more risk in not treating an exacerbation than any risk of the steroids themselves.

Because they are relatively new, the monoclonal antibodies or “biologics” used to treat severe asthma (such as *Cinqair*<sup>®</sup>, *Dupixent*<sup>®</sup>, *Fasenra*<sup>®</sup>, *Nucala*<sup>®</sup>, *Tezspire*<sup>®</sup>, and *Xolair*<sup>®</sup>, discussed further in Pamphlet #11: “Biologics’ Used to Treat Asthma”) have less information to support their safety in pregnancy or breastfeeding and should be discussed on a case-by-case basis with your asthma and obstetrical providers.

## What to expect post-delivery

Most people who experience changes in their asthma control during pregnancy can expect that they will return to their pre-pregnancy level of control within three months of delivery. If your asthma symptoms did worsen or improve during your first pregnancy, you can typically expect a similar change in subsequent pregnancies, although this is not a hard-and-fast rule.

## Asthma and breastfeeding

Only very small amounts of inhaled asthma medications pass into breast milk. They have not been associated with any risk for the baby. Breastfeeding has many health benefits for the baby, so if you have any questions regarding the safety of your asthma medications during breastfeeding, you should discuss them with your medical providers.

## Additional resources

MotherToBaby is a non-profit resource for women who are pregnant or breastfeeding, their families, and their health care providers. It provides up-to-date, evidence-based information about medication safety and other exposures during pregnancy and while breastfeeding.

- **MotherToBaby Asthma Resources**
  - <https://mothertobaby.org/pregnancy-breastfeeding-exposures/asthma/>
- **MotherToBaby Drug Fact Sheets**
  - <https://mothertobaby.org/fact-sheets/>
- **American College of Allergy, Asthma, and Immunology**
  - <http://acaai.org/asthma/who-has-asthma/pregnancy>