

## **Management of Asthma during Pregnancy**

Uncontrolled asthma while pregnant increases the risk of death of the unborn child, increases the chance of preeclampsia, increases the risk of preterm birth (before 37 weeks), and low birth weight of infants. There is a direct relationship between the severity of the mother's asthma and an increased risk to the unborn child. Most pregnant women with asthma can successfully control their asthma and have a healthy baby. Proper control of asthma should allow a woman with asthma to have a normal pregnancy with little or no increased risk to herself or her baby.

### **Asthma Treatment Goal**

- The treatment goal for the pregnant asthma patient is to be provided the best possible level of therapy to maintain control of asthma symptoms for the mother's health and quality of life as well as for normal growth of the baby throughout pregnancy.

### **Asthma Control is defined as:**

- Minimal or no asthma symptoms during the day or night
  - Minimal or no asthma episodes (or asthma exacerbations)
  - No limitations with activities; and no school or work missed
  - Maintain normal (or near normal) lung function
  - Minimal use of quick-relief inhaled medications (bronchodilators)
  - Minimal or no adverse effects from medications
- Asthma is highly variable. Therapy should be specific to the needs and issues of individual patients. A general stepwise approach to therapy is recommended in which the number and dose of medications used are increased as necessary and decreased when possible, based on the severity of the patient's asthma.
  - Asthma medication changes should be accompanied at every step of asthma severity with patient education and measures to control the triggers that contribute to the severity of the asthma.
  - Asthma care should be included with obstetrics care. The obstetrical care provider should be involved in asthma care and should obtain information on the asthma severity level and adherence to medications during prenatal visits. Information should include: daytime and nighttime symptoms, peak flow measures or spirometry test reading, and medication usage. Consultation or co-management with an asthma specialist is appropriate, as indicated, for evaluation of the role of allergy and irritants, complete pulmonary function studies, or evaluation of the medication plan if there are complications in achieving the goals of therapy or the patient has severe asthma. A team approach is helpful if more than one medical provider/physician is managing the asthma and the pregnancy.

## Four Components of Asthma Management

Recommendations for the treatment of asthma are organized around **four components** of effective asthma management:

1. **Assessment and Monitoring of Asthma** (including pulmonary lung function);
2. **Control of factors contributing to asthma severity** (asthma triggers);
3. **Patient education for a partnership in asthma care;** and
4. **Pharmacologic therapy using a stepwise approach.**

Patients who have persistent asthma should be evaluated at least monthly during pregnancy. A major reason for this frequency of monitoring is that the course of asthma changes in approximately two-thirds of women during pregnancy (Schatz et al. 2003). The asthma evaluation should include a history (symptom frequency, nighttime asthma symptoms, limitation with activities, asthma episodes, and medication use), physician listening to the lung sounds, and pulmonary function/spirometry testing.

The shortness of breath (dyspnea) in pregnancy may seem similar to the shortness of breath experienced during asthma episodes, but the shortness of breath in pregnancy is not associated with the chest tightness, wheezing, mucous production and airway narrowing of asthma.

Lung spirometry tests are recommended at the time of the initial checkup. For routine monitoring at most follow-up outpatient visits, spirometry is preferred. Patients with FEV1 of 60–80 percent predicted are at increased risk of subsequent asthma morbidity during pregnancy, and patients with FEV1 of less than 60 percent predicted are at even greater risk (Schatz et al. 2003).

Daily peak flow monitoring should be considered for patients with moderate to severe asthma, and especially for patients who have difficulty perceiving signs of worsening asthma. The evidence is not sufficient to conclude that peak flow monitoring is any more effective than symptom monitoring, but adequate studies in patients with moderate to-severe asthma have not been conducted. For these patients, peak flow monitoring may be a valuable tool for home monitoring of asthma and communicating asthma status to the clinician (EPR—Update 2002). Because FEV1 and PEF do not change appreciably due to pregnancy, PEF may still be a useful monitoring tool for pregnant women with asthma.

Women who have *persistent asthma* during pregnancy also may benefit from additional fetal monitoring such as ultrasound and antenatal fetal testing (aggressive preterm monitoring). Because asthma has been directly related to instances of Intrauterine Growth Restriction (IUGR)\* and preterm birth, it is useful to pinpoint the date of conception by first trimester ultrasound where possible. Aggressive and frequent fetal monitoring should be considered on the basis of the severity of the asthma as well as any other high-risk issues of the pregnancy that may be present. All patients should be pay close attention to fetal activity.

## **Avoiding Asthma Triggers during Pregnancy**

Identify and avoid “asthma triggers” during pregnancy to decrease the likelihood of having asthma episodes and asthma attacks. By avoiding triggers you will improve your chances of having a healthier and less stressful pregnancy with less need for medications. If you are currently receiving allergen testing and/or allergy injections during your pregnancy, per national guidelines they can be continued safely. However, a benefit-to-risk consideration should be discussed with your physician.

If you are a smoker, please consider stopping. The earlier you stop smoking during your pregnancy reduces the likelihood of complications for your health and the health of your unborn child. Studies have shown that smoking while pregnant may increase the risk for wheezing and development of asthma in the unborn child (Arshad and Hide 1992; Martinez et al. 1995). The West Virginia [Quitline](#) (1-877-966-8784) provides tools to help you quit.

If you are exposed to secondhand smoke or other irritants such as air pollution, power plant emissions, chemical plant emissions, etc., please try to avoid them whenever possible to reduce the likelihood of having asthma symptoms, asthma episodes, and asthma attacks. Also, ask for those who smoke in your home to only smoke outside.

## **The Quick List**

- Monitor the level of asthma control and lung function during prenatal visits. Asthma improves in one-third of women and worsens for one-third of women during pregnancy.
- Monthly evaluations of asthma will allow the opportunity to step up therapy if necessary and to step down therapy if possible.
- Albuterol is the preferred quick-relief medication (bronchodilator). However, discuss this and other medication options with your physician
- Using inhaled Controller medications (Corticosteroids) are the preferred long-term way to control asthma symptoms. Budesonide (Pulmicort) is a preferred controller medication because more information is available on this product in pregnant women than on others medications. However, no information indicates that other controller medications are unsafe during pregnancy.

\*Intrauterine Growth Restriction (IUGR) – most commonly defined as a fetal weight that is below the 10<sup>th</sup> percentile for gestational age as determined through an ultrasound. This can also be called small-for gestational age (SGA) or fetal growth restriction.

*Adapted from the NHLBI Guidelines 2007 EPR-3 for the Diagnosis and Treatment of Asthma. [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)  
Modified December 2010 by the West Virginia Asthma Education and Prevention Program [www.wvasthma.org](http://www.wvasthma.org)*