Aneurin Bevan University Health Board

Asthma in Pregnancy, Labour and Postnatal Guidelines

N.B. Staff should be discouraged from printing this document. This is to avoid the risk of out-of-date printed versions of the document. The Intranet should be referred to for the current version of the document.

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1 Executive Summary

This document is a procedure designed to support safe and effective practice. This document uses the term woman, but recognises that not all people having babies within Aneurin Bevan University Health Board, identify as women, and therefore applies to all people who are pregnant.

2 Scope of Guideline

This guideline applies to all clinicians working within maternity services.

3 Essential Implementation Criteria

Auditable standards are stated where appropriate.

4 Aims

To provide support for clinical decision making.

5 Responsibilities

The Maternity Management team.

6 Training

Staff are expected to access appropriate training where provided. Training needs will be identified through appraisal and clinical supervision. All midwives should be aware of safety of anti-asthma medications and should be able to counsel asthmatics to continue with their treatment during pregnancy.

7 Monitoring and Effectiveness

Local service Improvement Plan will guide monitoring and effectiveness.

This policy has undergone an equality impact assessment screening process using the toolkit designed by the NHS Centre Equality & Human Rights. Details of the screening process for this policy are available from the policy owner.

8 Appendices

8.1 Appendix 1 – Guideline for treatment of Asthma in Pregnancy

Guideline for Treatment of Asthma in Pregnancy

Pre- conceptual Counselling:

- Asthma control may improve, deteriorate or remain unchanged in pregnancy.
- Patient education to continue medication during pregnancy as deterioration in disease control is commonly caused by reduction or complete cessation of medication.
- Risk of intrauterine growth restriction, small for dates, premature birth with poor asthma control

- **Discuss risk vs benefit of continuing biologic (anti IgE or anti-IL5) therapy during pregnancy. There is limited registry data on use of biologic therapy during pregnancy, but for some women, the risks of deterioration in asthma control due to cessation of biologic therapy may well be greater than risks of continuing treatment.**
- Education on inhaler technique and home peak-flow monitoring
- Counsel women with asthma regarding the importance and safety of continuing their asthma medications during pregnancy to ensure good asthma control.

Classification of Asthma in Pregnancy

Table 1. Classification of Asthma Severity and Control During Pregnancy

Asthma Severity	Intermittent	Mild Persistent	Moderate Persistent	Severe Persistent
Asthma Control	**Well Controlled**	**Not Well Controlled**		**Very Poorly Controlled**
Symptom frequency and SABA use	≤2 days/wk	>2 days/wk	Daily	Several times/day
Nighttime awakenings	≤2 times/mo	>2 times/mo	>1 time/wk	>4 times/wk
Interference with normal activity	None	Minor limitation	Some limitation	Extreme limitation
FEV_1 or PEF	>80% predicted or personal best	>80% predicted or personal best	60%-80% predicted or personal best	<60% predicted or personal best

FEV_1: forced expiratory volume in 1 second; PEF: peak expiratory flow; SABA: short-acting beta agonist.
Source: Reference 1.

Antenatal period:

- Continue drug therapy as in non-pregnant state. Patients should be explicitly reassured regarding safety of their medications including inhaled corticosteroids and the importance of continuing with therapy to control asthma at their initial clinic visit.
- Pregnant patients with asthma should be explicitly reminded of importance of good control and that if they suffer an exacerbation of their asthma that it is important that this is treated promptly. All patients should be reassured of the safety of oral corticosteroids in pregnancy and informed that oral

corticosteroids should **NOT** be withheld because of pregnancy in the event of an exacerbation.

- For women whose asthma is poorly controlled during pregnancy there should be close liaison between the respiratory physician and obstetrician, with early referral to critical care physicians for women with acute severe asthma.
- If uncontrolled/ worsening asthma (Peak flow rate <80% of expected), refer them to the medical antenatal clinic + Nurse led asthma clinic and seek medical help.
- If severe asthma refer to Obstetric Anaesthetic alert clinic and ensure patients referred to Asthma Clinic for review in Chest Clinic by adding them to GMASTHMA watchlist on CWS.
- Outpatient Asthma Clinics: If requiring urgent review, directly email the asthma team:

  North Gwent

  South Gwent

- Women should be advised to stop smoking and directed to the 'Help me Quit' Service 0800 085 2219 https://www.helpmequit.wales

- It is important to consider the possibility of 'aspirin sensitivity' and severe bronchospasm in a small minority of women with asthma. In those patients who have a clear history of previous Aspirin sensitivity, even low dose exposure can be life threatening and is contraindicated. Low dose aspirin may be indicated in pregnancy as a prophylaxis for certain women high risk of conditions such as pre-eclampsia, antiphospholipid syndrome etc. **Pregnant women with asthma should be asked about a history of aspirin sensitivity before being advised to take low dose aspirin.**

  All pregnant women and particularly patients with asthma should be advised about the importance of getting the flu vaccination during pregnancy as early as possible in the flu season. It is important that any previous children in the household aged over 2 are vaccinated. This is because adult vaccination is only partly

effective and the woman will have extra protection if her children are protected.

- Home peak flow monitoring to be encouraged.
- If women are admitted to the Maternity wards with symptoms relating to asthma, daily peak flow monitoring should be done and referral to Respiratory team if their condition deteriorates.
- Women who have received steroid tablets at a dose exceeding prednisolone **7.5mg per day for more than two weeks prior to delivery should be aware that they will require intravenous hydrocortisone 100mg four times per day throughout labour and be encouraged to request it when presenting in labour**.
- A clear plan of intrapartum and postpartum management must be documented in the notes.

Induction:

- Prostaglandin E2 (propess, prostin) used to induce labour and to ripen the cervix is safe to use.
- Prostaglandin E1 (misoprostol) used for early management of miscarriage and PPH is safe to use.
- β_2 agonists via inhaled route do not impair uterine contractions or delay the onset of labour.
- The use of inhaled and oral medications including steroids should be continued throughout the induction process.

Intrapartum:

- Continue all usual asthma medication regularly as usual during labour.
- All forms of analgesia in labour are safe including epidurals and Entonox. Care must be taken to enquire about a history of sensitivity to non-steroidal anti-inflammatory drugs as these can precipitate life-threatening bronchospasm in a small proportion of asthmatics. Choose an alternative analgesia.
- Opiates can be used except in an unlikely event of an acute severe asthmatic attack and then they should be avoided.

- If anaesthesia is required, regional blockade is preferable to general anaesthesia in women with asthma due to the potential risk of bronchospasm with certain inhaled anaesthetic agents.
- On call Anaesthetist for Delivery Unit should be informed when brittle asthmatic woman is in labour.
- When interpreting arterial blood gases in pregnancy, it should be remembered that the progesterone-driven increase in minute ventilation may lead to relative hypocapnia and a respiratory alkalosis, and higher PaO2, but oxygen saturations are unaltered.

Caesarean Section should be for obstetric indications only .

- **Women receiving steroid tablets at a dose exceeding prednisolone 7.5 mg per day for more than two weeks prior to delivery should receive parenteral hydrocortisone 100 mg 6 hourly during labour.**

Postpartum:

- Extreme caution should be used when administering ergometrine and /or Carboprost. Both drugs may worsen bronchospasm, however, in cases of postpartum haemorrhage, benefits are likely to outweigh the risks.
- Syntometrine should be used with caution, Syntocinon should be considered.

NEVER GIVE CARBOPROST INTRAVENOUSLY

Breastfeeding:

- Women with asthma should be encouraged to breastfeed.

- All drugs including inhaled steroids are safe to use in breastfeeding.

- The risk of atopic disease developing in the child of a woman with asthma is about 1 in 10, or 1 in 3 if both parents are atopic. There is some evidence that breast feeding may reduce the risk of asthma in the baby.

Management of an acute Asthma attack in pregnancy/labour

Acute uncontrolled asthma can kill – but it is rarely a problem in pregnancy.

Can be spontaneous but is more commonly induced by either superimposed respiratory infection or medically induced e.g. with Carboprost (Haemabate).

Acute severe asthma in pregnancy is an emergency and should be treated vigorously in hospital.

A diagnosis of acute severe asthma is made when:

- PEF 33-50% best or predicted
- Respiratory rate ≥25/min
- Heart rate ≥110/min
- Inability to complete sentences in one breath.

Life threatening asthma in a patient with severe asthma any one of:

- PEF <33% or best predicted
- SpO2 <92%
- Pa02<8 k pa
- Normal or raised PaCO2 (4.6-6.0 kPa)
- Silent chest, cyanosis, poor respiratory effort
- Arrhythmia, exhaustion, hypotension, altered consciousness.

Near fatal asthma

- Raised PaCO2 and/or requiring mechanical ventilation with raised inflation pressures

Principles:

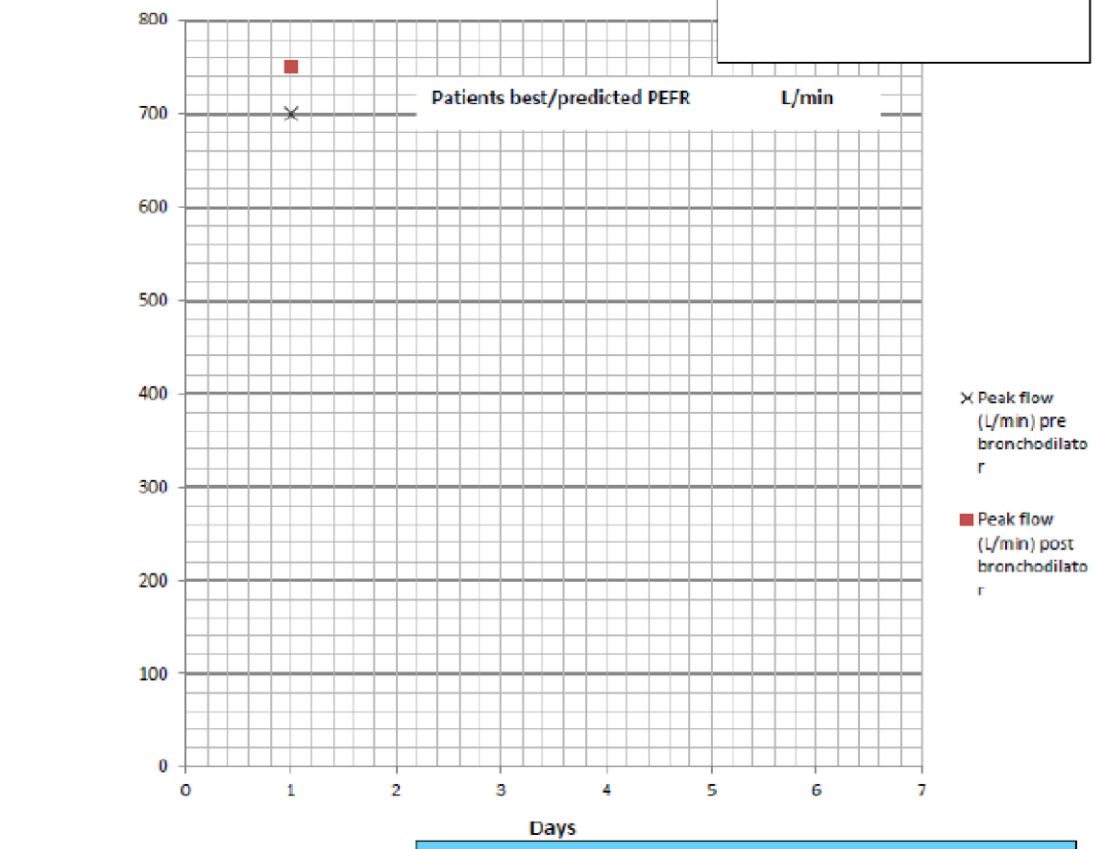
1. Give drug therapy as in non-pregnant including systemic steroids and Magnesium Sulphate.
2. Deliver high-flow Oxygen immediately to maintain saturation between 94-98%
3. **ALWAYS** record Peak expiratory flow (PEFR) and refer to flow chart to categorise.
4. The admitting team while waiting for help from the medics must treat moderate, severe and life-threatening asthma (see peak flow) vigorously. See flow charts below. The most important step is early (within an hour), administration of steroids. Providing the patient can swallow, 40mg of prednisolone od for 7 days is appropriate.
5. Exclude other causes of worsening breathlessness and wheeze such as pulmonary embolism, cardiomyopathy etc. Be mindful that asthma very rarely causes hypoxia unless life threatening/near fatal.
6. Continuous foetal monitoring is recommended.
7. Close liaison between respiratory physician, anaesthetist, and obstetrician. There is a respiratory consultant on call 24hours, 7 days a week available for advice through switchboard.
8. Be aware that many young pregnant women with asthma do not appear distressed and their observations remain stable .
9. Ensure all patients attending because of asthma during pregnancy have follow up by adding them to the **GMASTHMA watchlist** on CWS, prior to discharge from hospital. This will ensure follow up with an asthma nurse within 2 weeks of discharge.

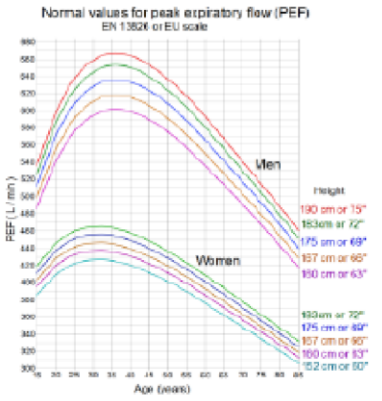
- The following drug therapies should be used as normal during pregnancy:
  1. short-acting β2 agonists
  2. long acting β2 agonists
  3. inhaled corticosteroids

4. oral and intravenous theophyllines . check blood levels of theophylline in pregnant women with acute severe asthma and in those critically dependent on therapeutic theophylline levels
5. steroid tablets, when indicated for women with severe asthma. Steroid tablets should **never** be withheld because of pregnancy. Women should be advised that the benefits of treatment with oral steroids outweigh the risks.
6. If leukotriene receptor antagonists are required to achieve adequate control of asthma then they should not be withheld during pregnancy.
7. Sodium cromoglicate and Nedocromil sodium

Asthma: Peak Expiratory Flow Rate (PEFR) record

Please affix patient identifier here





Ensure PEFR monitor prescribed qds on drug chart and completed pre and post bronchodilator 4 times daily

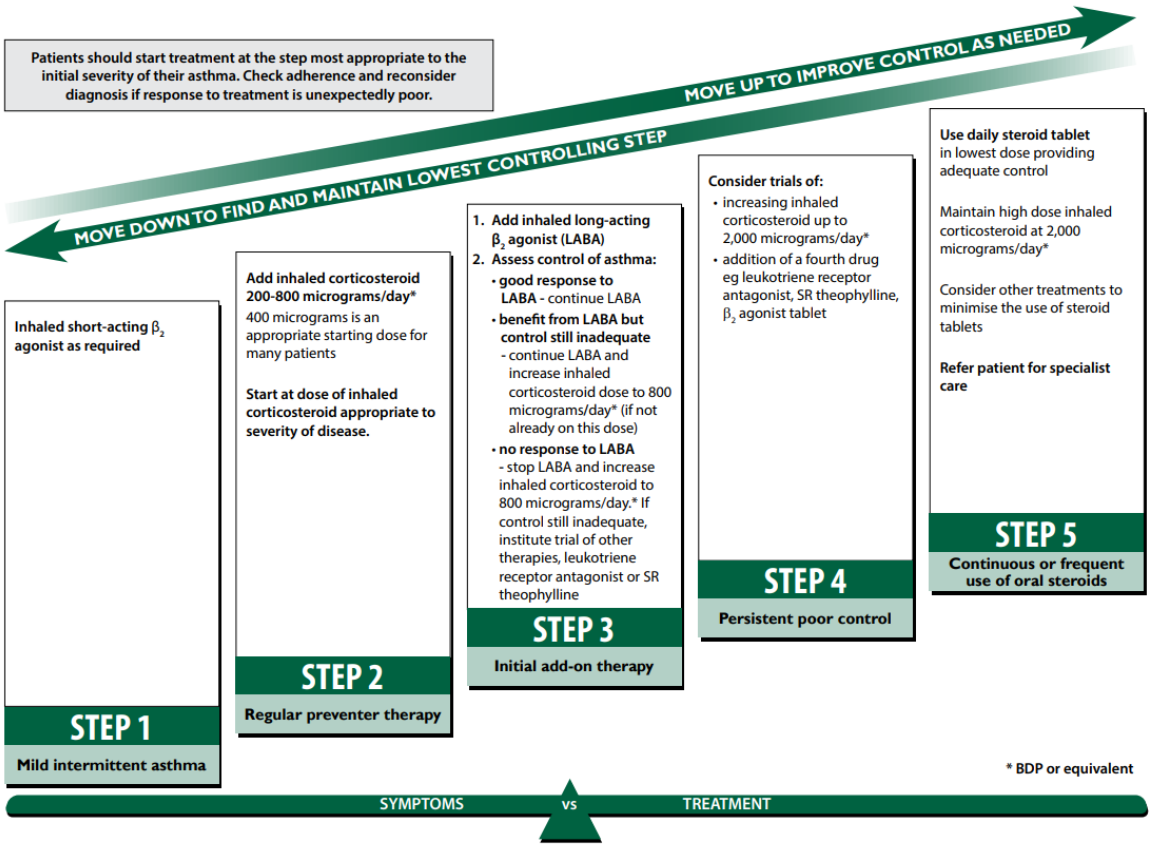
When interpreting results please check patient's PEFR technique

Base clinical decisions on percentage of patient's best value when well or predicted value if not known (see overleaf for severity assessment)

Ensure asthma bundle completed on all patients:

- Inhaler technique checked by respiratory nurse or pharmacist
- Medication compliance verified and addressed
- Review any potential triggers and modify where possible
- Ensure written management plan
- Ensure community review at 48 hours post discharge and asthma nurse review within 2 weeks
- Any patient presenting with severe, life threatening or near fatal asthma should be referred to respiratory services

Add patient to GMASTHMA watch list: to arrange bundle completion and outpatient follow up



9 References:

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cohort. J Allergy Clin Immunol. 2020 Feb;145(2):528-536.e1. doi:

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