### South Australian Perinatal Practice Guideline

# Asthma in Pregnancy

© Department for Health and Wellbeing, Government of South Australia. All rights reserved.

#### Note:

This guideline provides advice of a general nature. This statewide guideline has been prepared to promote and facilitate standardisation and consistency of practice, using a multidisciplinary approach. The guideline is based on a review of published evidence and expert opinion.

Information in this statewide guideline is current at the time of publication.

SA Health does not accept responsibility for the quality or accuracy of material on websites linked from this site and does not sponsor, approve, or endorse materials on such links.

Health practitioners in the South Australian public health sector are expected to review specific details of each patient and professionally assess the applicability of the relevant guideline to that clinical situation.

If for good clinical reasons, a decision is made to depart from the guideline, the responsible clinician must document in the patient's medical record, the decision made, by whom, and detailed reasons for the departure from the guideline.

This statewide guideline does not address all the elements of clinical practice and assumes that the individual clinicians are responsible for discussing care with consumers in an environment that is culturally appropriate, and which enables respectful confidential discussion. This includes:

- · The use of interpreter services where necessary,
- · Advising consumers of their choice and ensuring informed consent is obtained,
- Providing care within scope of practice, meeting all legislative requirements, and maintaining standards of professional conduct, and
- Documenting all care in accordance with mandatory and local requirements

Note: The words woman/women/mother/she/her have been used throughout this guideline as most pregnant and birthing people identify with their birth sex. However, for the purpose of this guideline, these terms include people who do not identify as women or mothers, including those with a non-binary identity. All clinicians should ask the pregnant person what their preferred term is and ensure this is communicated to the healthcare team.



"Aboriginal and Torres Strait Islander recognition statement: We use the term 'Aboriginal' to refer to people who identify as Aboriginal, Torres Strait Islander, or both Aboriginal and Torres Strait Islander. We do this because the people indigenous to South Australia are Aboriginal and we respect that many Aboriginal people prefer the term 'Aboriginal'. We also acknowledge and respect that many Aboriginal South Australians prefer to be known by their specific language group(s)."

Australian Aboriginal Culture is the oldest living culture in the world, yet Aboriginal people continue to experience the poorest health outcomes when compared to non-Aboriginal Australians. In South Australia, Aboriginal women are 2–5 times more likely to die in childbirth and their babies are 2–3 times more likely to be of low birth weight. The accumulative effects of stress, low socio-economic status, exposure to violence, historical trauma, culturally unsafe and discriminatory health services, and health systems are all major contributors to the disparities in Aboriginal maternal and birthing outcomes. Despite these unacceptable statistics, the birth of an Aboriginal baby is a celebration of life and an important cultural event bringing family together in celebration, obligation, and responsibility. The diversity between Aboriginal cultures, language and practices differ greatly and so it is imperative that perinatal services prepare to respectfully manage Aboriginal protocol and provide a culturally positive health care experience for Aboriginal people to ensure the best maternal, neonatal and child health outcomes.

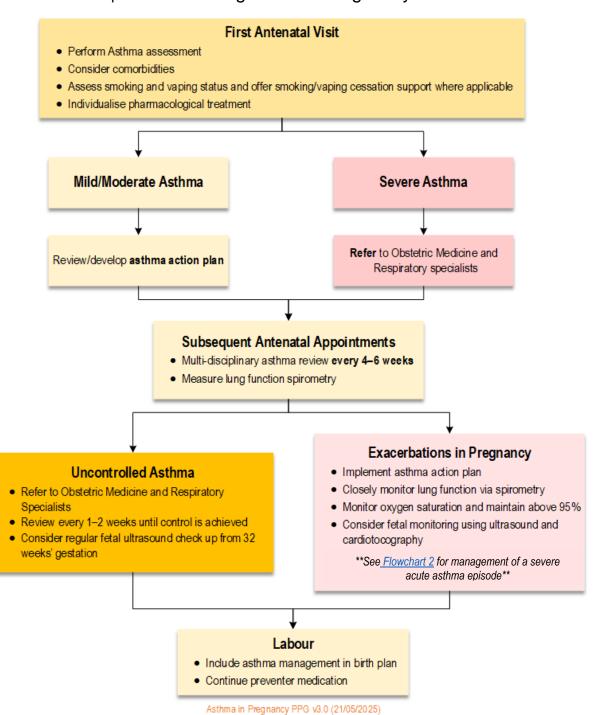
Explanation of the Aboriginal artwork: The Aboriginal artwork used symbolises the connection to country and the circle shape shows the strong relationships amongst families and the Aboriginal culture. The horseshoe shape design shown in front of the generic statement symbolises a woman and those enclosing a smaller horseshoe shape depicts a pregnant woman. The smaller horseshoe shape in this instance represents the unborn child. The artwork shown before the specific statements within the document symbolises a footprint and demonstrates the need to move forward together in unison.

## Aim and Scope of PPG

The purpose of this guideline is to provide clinicians with information on the management of asthma in pregnancy. It includes details on pre-conception counselling, assessment, medication regimes, management of acute asthmatic episodes, and perinatal care.

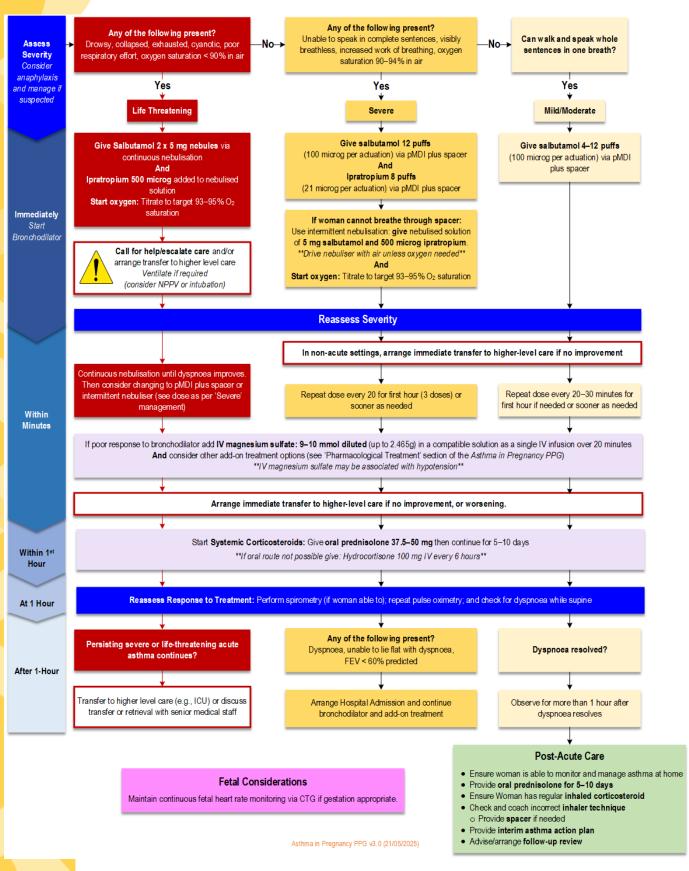


## Flowchart 1| Asthma Management in Pregnancy and Labour





## Flowchart 2| Management of Acute Asthmatic Episode





\*\*For a larger, printable copy click here\*\*

## **Table of Contents**

Air	n and Scope of PPG	1
Flo	wchart 1  Asthma Management in Pregnancy and Labour	2
Flo	wchart 2  Management of Acute Asthmatic Episode	3
	ble of Contents	
	mmary of Practice Recommendations	
	breviations	
	finitions	
	erature Review	
	gional Considerations	
	assification of Asthma Severity	
	e-Conception Counselling	
	tenatal Managementtenatal Education	
	armacological Treatment	
	Controller Medications (Preventers)	
	Inhaled Corticosteroids	
	Other Preventers	
	Combined Preventers	
	Reliever Medication	
	Bronchospasm Relaxants	
	Oral Corticosteroids	
D:-		
	k Factors for Exacerbations	
	rapartum Considerations	
	Use of Intravenous Hydrocortisone in Labour	
	Management of Acute Asthma Exacerbation in Labour	
D۵	stpartum Considerations	
. 0	Postpartum Haemorrhage	
	Analgesia	
	Neonatal Hypoglycaemia	
	Breastfeeding	
	Asthma Management Review	
	Education	
D۸	sources	
	ferences	
	knowledgements	
0	Write Group Lead	
	Write Group Members	
	Other Major Contributors	
	SAPPG Management Group Members	
	OAL LO Inianagement Group Internibers	10



## Summary of Practice Recommendations

The management of asthma in pregnancy is no different from that in the non-pregnant woman.

Women should participate in preconception counselling and supported to optimise their asthma control.

Asthma management and action plans need to be established and reviewed in pregnancy to reduce adverse outcomes.

Women with asthma who are using a reliever more than once a week should be given preventer medication to optimise control of asthma during pregnancy.

For regional and remote women, consider provision of an emergency 5-day pack of oral corticosteroids to commence during flare ups and advise women to contact their local doctor as soon as possible, for ongoing review and support.

Multidisciplinary asthma review should occur every 4–6 weeks during pregnancy and include both obstetric and respiratory medical teams.

All asthma exacerbations in pregnancy need to be managed immediately with inhaled beta  $(\beta)$  2 agonists and potentially with oral corticosteroids if severe.

If induction of labour (IOL) or cesarean section is required, plan for  $\geq$  39 weeks' gestation unless there are medical complications requiring earlier intervention.

Intra-myometrial PGF2 alpha for postpartum hemorrhage management should be used with caution as it may cause bronchospasm in the asthmatic woman.

Nonsteroidal anti-inflammatory drugs for analgesia should be used with caution in the postpartum period as they may cause bronchospasm in the asthmatic woman.

If high doses of  $\beta$ -agonists have been administered to the woman in the 48 hrs prior to birth, neonatal blood glucose levels should be monitored for the first 24 hours.

Consultation with the specialist/preferred medical provider should be arranged to review asthma plan and management plan for preventers and control medications.



## Abbreviations

>	Greater than				
2	Greater than or equal to				
<	Less than				
≤	Less than or equal to				
COVID	Coronavirus Disease				
FEV1	Forced expiratory volume in 1 second				
FVC	Forced vital capacity				
GINA	Global initiative for asthma program				
HPA	Hypothalamic-pituitary-adrenal				
ICS	Inhaled corticosteroid(s)				
IOL	Induction of labour				
IV	Intravenous				
LABA	Long-acting beta (β) agonists				
LSCS	Lower segment caesarean section				
microg	Microgram(s)				
mg	Milligram(s)				
ocs	Oral corticosteroid(s)				
PEF	Peak expiratory flow obtained with a portable peak flow meter				
PEFR	Peak expiratory flow rate				
PPH	Postpartum Haemorrhage				
PRN	When required				
RSV	Respiratory syncytial virus				
SABA	Short-acting beta (β) agonists				
TGA	Therapeutic Goods Administration				

## **Definitions**

Asthma	<ul> <li>The presence of <b>both</b> of the following:</li> <li>excessive variation in lung function ('variable airflow limitation', e.g., variation in expiratory airflow that is greater than that seen in healthy people).</li> <li>respiratory symptoms (e.g., wheeze, shortness of breath, cough, chest tightness) that vary over time and may be present or absent at any point in time.<sup>1</sup></li> </ul>			
High- dose ICS	<ul> <li>400 microg/day beclomethasone dipropionate (e.g., Qvar)</li> <li>800 microg/day budesonide (e.g., Pulmicort or as part of Symbicort)</li> <li>&gt; 320 microg/day ciclesonide (e.g., Alvesco)</li> <li>200 microg/day fluticasone furoate (as part of Breo Ellipta), &gt; 500 microg/day fluticasone propionate (e.g., Flixotide or as part of Seretide)¹</li> </ul>			
Shared decision making	Shared decision making involves discussion and collaboration between a consumer and their healthcare providers. It is about bringing together the consumer's values, goals, and preferences with the best available evidence about benefits, risks and uncertainties of screening, investigations, and treatment, to reach the most appropriate healthcare decisions for that person.			
Uncontrolled asthma	Poor symptom control, e.g. during previous 4 weeks symptoms during night or on waking or limitation of activities due to asthma, daytime symptoms > 2 days/week or need for SABA reliever > 2 days/week (not including doses taken prophylactically before exercise), frequent/serious flare-ups or persistent airflow limitation on spirometry. <sup>1</sup>			



### Literature Review

Australia has one of the highest rates of asthma across the world with a prevalence of 12%.¹ First Nations people are 1.6 times more likely to report having asthma as non-Indigenous Australians (18% versus 12%, respectively).³ The majority of women living with asthma are diagnosed in childhood and is the most common chronic condition in pregnancy, affecting approximately 1 in 8 pregnant women.⁴ During pregnancy, most women experience a change in asthma control, although these changes are unpredictable. Appropriately 6% of pregnant women are hospitalised due to severe asthma flare-ups.¹,⁴ Women with well managed asthma can expect similar pregnancy outcomes as women without asthma. However, recent evidence suggests that women with asthma may experience fertility issues with increasing age of conception, which may be linked to asthma severity and prolonged exposure to low-grade inflammation.⁴

Severe asthma may be associated with a number of perinatal complications including:4,7

- > low birth weight infants
- > preterm birth
- caesarean birth
- placenta praevia.

Associated maternal morbidities include:1

- pre-eclampsia
- urinary tract infection
- gestational diabetes
- antepartum haemorrhage
- postpartum haemorrhage
- placental abruption
- premature rupture of membranes
- congenital malformations
- neonatal hospitalisation
- perinatal mortality.

**Note**: Adverse perinatal outcomes are largely dependent on the severity of maternal asthma and asthma control during pregnancy.

## **Regional Considerations**

For regional and remote women, consider provision of an <u>emergency 5 day pack of oral corticosteroids</u> to commence during flare ups and advise women to contact their local doctor as soon as possible for ongoing review and support.<sup>1</sup>



## Classification of Asthma Severity

Asthma severity should be assessed retrospectively, based on the level of treatment required to control the symptoms, rather than by the intensity or frequency of symptoms.<sup>2</sup> Severity can be classified as:<sup>2</sup>

**Severe:** uncontrolled despite regular treatment with high-dose ICS plus LABA or with maintenance OCS, or asthma that requires this level of treatment to prevent loss of control.<sup>2</sup>

Moderate: well controlled with low or medium dose ICS-LABA.2

Mild: well controlled with ICS, or low dose ICS plus SABA, as needed.<sup>2</sup>

**Note**: Classifying asthma as 'mild' is generally not recommended due to the common assumption that mild asthma equates to low risk, and should therefore be described by symptom control and risk factors on their current treatment.<sup>2</sup>

## **Pre-Conception Counselling**

- Women with asthma who are planning to become pregnant should be advised to stop smoking and avoid cigarette smoke. This includes vapes and cannabis.
  - For more information see the Smoking (Tobacco) and Vaping in Pregnancy PPG found in the A-to-Z index at www.sahealth.sa.gov.au/perinatal
- Assess level of asthma control and severity, determined by the level of treatment required to control symptoms and exacerbations, and ensure the woman is well controlled with an appropriate asthma medication before becoming pregnant.
- Reassure women with asthma that most asthma medications, including most inhaled corticosteroids (ICS), have a good safety profile and can be continued during pregnancy.
- Review asthma control after any change in the medication regimen.
- ldentify significant triggers, such as exposure to known allergens and irritants (including cigarette smoke, vapes) and discuss avoidance strategies.
- Ensure the woman has individualised written asthma action plan.
  - For more information see Asthma Action Plan Library at www.nationalasthma.org.au.
- Encourage good asthma self-management, including self-monitoring for signs of deterioration of asthma control (via symptoms and/or peak flow monitoring) and correct inhaler technique.
- Review and update the asthma action plan and arrange regular asthma review.

## Antenatal Management

The optimal approach to asthma management during pregnancy is through multidisciplinary care that integrates both obstetric and respiratory medicine. The provision of individualised asthma action plans is an important aspect of asthma self-management and associated with a significant increase in neonatal birth weight, compared with no action plan. Women with moderate or severe persistent asthma or who are identified as very poorly controlled should be managed in close consultation with a physician who has expertise in pulmonary medicine.

Multidisciplinary asthma review should occur every 4–6 weeks during pregnancy, and should include both obstetric and respiratory medical teams.<sup>4</sup> Good asthma control during pregnancy is a high priority, to reduce adverse outcomes for both the mother and the fetus.<sup>1</sup> ICS reduce the risk of exacerbations in pregnancy and should **not** be stopped in preparation for or during pregnancy.<sup>2</sup> Optimal management of asthma in pregnancy should include:

- Assessment of asthma control at each visit.
  - In women with sub-optimally controlled asthma, consider regular fetal ultrasound check up from 32 weeks' gestation. If a severe exacerbation occurs, arrange a follow-up ultrasound.



- Individualising pharmacologic treatment to maintain normal pulmonary function.
- Self-management, education, and provision of an asthma action plan.
  - o all pregnant women who have asthma, regardless of the severity, have an up-to-date asthma action plan and understand how to use it.
- ➤ 4–6 weekly obstetric/respiratory/physician reviews to monitor asthma control and detect and treat any changes in respiratory function.
  - Women with very poorly controlled asthma should be seen every 1–2 weeks until control
    is achieved.
  - Consider a chest X-ray in the presence of respiratory compromise if respiratory complications are suspected following examination. Fetal risk is far outweighed by the potential benefits for both the mother and fetus.
    - < 0.0001% fetal risk of developing childhood cancer per examination.<sup>8, 9</sup>
- Measurement of lung function:
  - spirometry is preferable but peak expiratory flow (PEF) measurement with a peak flow meter is also acceptable
  - spirometry should be performed at regular visits to monitor lung function. Between visits, women can monitor their lung function using a peak flow meter, if required.
- > Review of medications, inhaler technique; review and update the asthma action plan.
- Vaccination against influenza, COVID, pertussis and RSV as required<sup>1, 4</sup>
  - Influenza and COVID infections can be more severe in pregnancy.
- > Antenatal anaesthetic referral/review for all women with severe and/or uncontrolled asthma.

### **Antenatal Education**

An asthma education program tailored to pregnant women and delivered by an asthma educator can contribute to significant improvements in asthma self—management including inhaler technique, knowledge of and adherence to prescribed medications.

Education should include emphasis on:

- the importance of maintaining good asthma control with appropriate medications, especially ICS, to reduce the risk of asthma exacerbations
- the importance of smoking cessation and limited environmental smoke exposure and assist smoking women and partners to quit. This also applies to vapes and cannabis
- avoiding or minimising asthma triggers where possible by reducing exposure to known allergens and irritants (including cigarette smoke, vapes)
  - See Smoking (Tobacco) and Vaping in Pregnancy PPG found in the A-to-Z index at www.sahealth.sa.gov.au/perinatal.

## Pharmacological Treatment

Pharmacological management of asthma includes the administration of preventer medications and reliever medications. Evidence suggests that asthma medications are safe to administer in pregnancy.<sup>1, 5</sup> Regular provision of antenatal education on medication safety, inhaler device technique and importance of asthma management plans is associated with improved adherence to medication and asthma control.<sup>7</sup>

Evidence on the safety of preventer medicines during pregnancy has not found any association between the use of ICS during pregnancy and adverse outcomes or congenital malformations.<sup>1</sup> Many women decrease or cease their asthma therapies when pregnant due to their concerns about safety of medications in pregnancy. However, the benefits of actively treating asthma in pregnancy outweigh any potential risk associated with the use of preventer and reliver medications.<sup>2</sup> Adverse outcomes are lower among those with well-controlled asthma, especially where managed with ICS. The use of ICS during pregnancy has been shown to protect against low birth weight.



### **Controller Medications (Preventers)**

ICS aim to reduce inflammation of the airways, control symptoms and reduce risk of future flare ups and prevent further decline in lung function<sup>8</sup>. Dose and regimen can vary on the severity of the individual person and their response and control.

#### **Inhaled Corticosteroids**

ICSs are the mainstay of treatment for asthma. There is no data indicating that they are unsafe in pregnant women and may be used in pregnancy. Most evidence for safety is for budesonide.

ICS should be administered to persistent asthmatics increasing dose with severity. Moderate and severe persistent asthmatics will require medium to high doses of ICS in combination with LABA (refer to the Australian *Asthma Handbook 2022* found at <a href="https://www.asthmahandbook.org.au">www.asthmahandbook.org.au</a>).

#### **Other Preventers**

- Sodium cromoglycate
  - No known adverse fetal effects.
- Montelukast sodium
  - No teratogenic effects have been shown in animal studies.

#### **Combined Preventers**

- Budesonide/formoterol fumarate dihydrate (e.g., Symbicort).
- Fluticasone propionate/formoterol (e.g., Flutiform).
- Fluticasone furoate\*-/vilanterol trifenatate (e.g., Breo Ellipta).
- Fluticasone propionate/salmeterol xinafoate (e.g., Seretide).

#### **Reliever Medication**

These are medications taken as required, to relieve break through symptoms, including flare ups. These medications can also be taken to prevent exercise induced bronchoconstriction<sup>8</sup>. Dose and regimen will vary depending on the woman's control and response.

#### **Bronchospasm Relaxants**

- > Inhaled short acting β2-agonists (SABAs) such as salbutamol and terbutaline have no associated teratogenic risks.
- Inhaled long acting β2-agonists (LABAS) such as salmeterol, eformoterol and usually combined with an ICS in "combination therapies".
  - Do not withdraw LABAs in women who present after they have become pregnant if they
    are controlling symptoms as the benefits of asthma control outweigh any potential for an
    adverse pregnancy outcome.

**Note:** Theophyllines have a narrow therapeutic window, and may aggravate nausea and reflux in pregnant women, as well as cause transient neonatal tachycardia and irritability. Therefore, not recommended as first or second line therapy in pregnancy.



#### **Oral Corticosteroids**

- Are necessary for short periods of severe asthma in pregnancy especially to resolve an exacerbation or if high dose ICS in combination with LABA do not control asthma symptoms.
- Can be lifesaving in acute severe asthma with the benefits outweighing the risks.
- Oral Corticosteroids used in pregnancy are:
  - methylprednisolone sodium succinate
  - o prednisolone.
- Hydrocortisone sodium succinate intravenous (IV) corticosteroids are necessary for short periods of severe asthma in pregnancy especially to resolve an exacerbation or if high dose ICS in combination with LABA do not control asthma symptoms.

### Risk Factors for Exacerbations

- 'Severe' asthma
- Poor control or nonadherence to preventer medicines
- Viral infections
- Co-morbidities e.g., obesity and gastro-oesophageal reflux.<sup>1</sup>

## Managing Exacerbations



Refer and escalate care at any time if the woman needs prolonged high-dose inhaled corticosteroids (ICS), needs maintenance OCS, has needed ≥ 2 courses of OCS for acute asthma despite treatment with ICS-LABA, has used SABA 6-8 puffs/day for several weeks, or has frequent flare-ups.

Exacerbations are common in pregnancy, with the highest incidence in the second trimester.<sup>2, 4</sup> Exacerbation risks of asthma in pregnancy are generally related to the severity of the disease, nonadherence with preventer medications, viral infections and other factors associated with obesity and gastro-oesophageal reflux.

Early intervention and management of exacerbations is crucial to minimise risk to the fetus. All asthma exacerbations need to be to be treated promptly and aggressively with inhaled  $\beta$ -agonists, oxygen and early administration of systemic corticosteroids to avoid fetal hypoxia.

**Note**: Women should be advised to seek medical assistance early instead of self-managing to help reduce risk to the fetus.

Clinical indicators of mild/moderate or severe acute asthma are described in Table 1.

Table 1: Rapid Assessment of Acute Asthmatic Episode#

Mild/Moderate	<ul> <li>Able to walk and speak whole sentences in one breath.</li> <li>Oxygen saturation &gt; 94%.</li> </ul>		
Severe	<ul> <li>Any signs of respiratory distress:</li> <li>use of accessory muscles of the neck or intercostal muscles</li> <li>'tracheal tug' during inspiration</li> <li>subcostal recession.</li> </ul>		
Life-Threatening	<ul> <li>Reduced consciousness or collapse</li> <li>Exhaustion</li> <li>Cyanosis</li> <li>Oxygen saturation &lt; 90%</li> <li>Poor respiratory effort or soft/absent breath sounds.</li> </ul>		

#Adapted from the National Asthma Council: Australian Asthma Handbook1



During a severe acute asthma episode in a pregnant woman (see Flowchart 2):

- Closely monitor lung function via spirometry
- Monitor oxygen saturation and maintain above 95%
- Consider fetal monitoring using ultrasound and cardiotocography
- Implement asthma action plan.
- > Treatment should be aggressive, and replicate management of a non-pregnant person.1

## Intrapartum Considerations

- Exacerbations of asthma are uncommon during labour and birth, and are usually associated with women who have severe asthma.<sup>2</sup>
- ➤ Women should continue usual preventer medication, with the additional of a reliever if required.²
- Whilst rare, bronchoconstriction may result from hyperventilation during labour and should be managed with inhaled short acting agonists.<sup>2</sup>
- > Except in the most severe cases, asthma should not preclude a vaginal birth.
- > Occasionally, women with very severe asthma may be advised to have an elective birth (induction of labour or caesarean section) at a time when their asthma is well controlled.
- Expert opinion recommends adequate hydration, and analgesia should be maintained during labour and birth.
- Women receiving steroid tablets at a dose exceeding prednisolone 7.5 mg per day for more than two weeks prior to birth should receive parenteral hydrocortisone 100 mg, 6–8 hourly during labour.
- Symptoms of asthma during labour are generally controlled with standard asthma therapy.
- Inhaled β-agonists do not impair uterine contractions or delay the onset of labour.
- Prostaglandin E2 may be used to induce labour for women who have asthma.
- Avoid using 15-methyl prostaglandin F2 alpha due to the risk of bronchoconstriction.
- There is no evidence that oxytocin causes bronchoconstriction.
- ➤ Ergometrine has been reported to cause bronchospasm, especially if general anaesthesia is being used, but this does not appear to be an issue if Syntometrine® is used for prophylaxis of postpartum bleeding.
- Regional anaesthesia is preferred over general anaesthesia (reduced risk of chest infection).
- ➤ If IOL or LSCS required, plan for ≥ 39 weeks' gestation unless there are medical or obstetric complications requiring earlier intervention.
- Regional anaesthesia is preferred to general anaesthesia to prevent airway irritation and post operative complications.

### **Use of Intravenous Hydrocortisone in Labour**

The leading role of hypothalamic-pituitary-adrenal (HPA) axis is to control the synthesis and secretion of cortisol from the adrenal cortex. The antenatal administration of glucocorticoids (prednisolone) can result in HPA suppression. For women taking regular oral glucocorticoids, in consultation with the physician, consider IV hydrocortisone to prevent adrenal crisis. Continue until after birth when it is suitable to recommence oral treatment.

IV hydrocortisone is recommended in labour in the following:

➤ Women who have taken > 7.5mg prednisolone per day for > 2 weeks in the prior to the birth should receive 100 mg hydrocortisone, 6–8 hourly in labour.

**Note**: The baby of a woman who has had IV hydrocortisone may require paediatric review, early monitoring of blood sugar levels, +/- initial observation in the nursery.



#### Management of Acute Asthma Exacerbation in Labour

- This is a rare event possibly due to the high levels of endogenous steroids in labour.
- Requires early diagnosis and management.
- Assess for evidence of associated infection, especially respiratory viruses and treat accordingly.

### Management:

- Assist woman to an upright position.
- Administer 100% oxygen via Hudson mask.
- Continuously monitor oxygen saturation levels.
- In acute exacerbation, administer salbutamol via nebuliser (or 12 puffs via large volume spacer) with oxygen and repeat as indicated following physician/respiratory specialist medical review
- > There is only theoretical evidence that nebulised β2-agonists will interfere with uterine contractions in labour.
- ➤ If there is no response to bronchodilators, in consultation with respiratory specialist or physician, consider IV hydrocortisone 100 mg every six hours and consult an intensivist at a hospital with adult intensive facilities.
- > Consider IV β2-agonists or IV bolus magnesium sulphate as indicated and ordered by the physician/respiratory consultant.
- Assess the need for ventilatory support if inadequate response.

## Postpartum Considerations

### Postpartum Haemorrhage

- Prostaglandin E1 (misoprostol) may be used for the management of postpartum haemorrhage.
- Use intramyometrial PGF2 alpha (dinoprost) with caution as this may trigger bronchospasm.

See *Postpartum Haemorrhage (PPH) PPG* found in the A-to-Z index at <a href="https://www.sahealth.sa.gov.au/perinatal">www.sahealth.sa.gov.au/perinatal</a>.

### **Analgesia**

Nonsteroidal anti-inflammatory drugs for analgesia should be used with caution in the postpartum period as they may cause bronchospasm in the asthmatic woman.

### **Neonatal Hypoglycaemia**

- If high doses of β-agonists have been administered to the woman in the 48 hrs prior to birth, the neonate may be at increased risk of hypoglycaemia.<sup>2</sup>
  - Neonatal blood glucose levels should be monitored for the first 24 hours.<sup>2</sup>
- See Neonatal Hypoglycaemia PPG found in the A-to-Z index at www.sahealth.sa.gov.au/perinatal.

#### **Breastfeeding**

- Breastfeeding should be encouraged.
- ➤ Infants who are breastfed are less likely to develop respiratory illness, wheeze and childhood asthma.<sup>4,7</sup>
- Asthma medications are safe for use whilst breastfeeding.<sup>1</sup>
  - Oral prednisolone 37.5–50mg as a single dose each morning for 5–10 days is recommended to manage flare ups whilst breastfeeding.<sup>1</sup>



### **Asthma Management Review**

- Review asthma regularly after birth.
- Consultation with the specialist/preferred medical provider should be arranged to review asthma plan and management plan for preventers and control medications.

#### Education

- Remind parents that passive smoking increases the risk of childhood asthma and other respiratory conditions in their child. The link between exposure to environmental tobacco smoke in early childhood and increased risk of respiratory illnesses, including asthma, has been well documented in epidemiological studies.
- Avoidance of environmental tobacco smoke may reduce the risk of childhood asthma.

### Resources

#### **Asthma Australia:**

Home - Asthma Australia | The nation's peak consumer body

#### Asthma in Pregnancy Toolkit

https://asthmapregnancytoolkit.org.au/

#### Australian Asthma Handbook:

Australian Asthma Handbook

Australian Charter of Healthcare Rights: (www.safetyandquality.gov.au)

<u>Australian Charter of Healthcare Rights | Australian Commission on Safety and Quality in Health</u> Care

Australian Government Pregnancy, Birth and Baby: (<a href="www.pregnancybirthbaby.org.au">www.pregnancybirthbaby.org.au</a>)
Pregnancy, Birth and Baby | Pregnancy Birth and Baby (pregnancybirthbaby.org.au)

**Medicines Information:** (sahealthlibrary.sa.gov.au)

https://sahealthlibrary.sa.gov.au/friendly.php?s=SAPharmacy

#### **National Asthma Council:**

National Asthma Council Australia - National Asthma Council Australia

#### **SA Health Pregnancy:**

Pregnancy | SA Health

#### SAPPGs Web-based App:

Practice Guidelines (www.sahealth.sa.gov.au)

Pathology Tests Explained: (https://pathologytestsexplained.org.au/)

Pathology Tests Explained

You've got what? (www.sahealth.sa.gov.au)

You've Got What? | SA Health



## References

- 1. National Asthma Council. Australian Asthma Handbook. The National Guidelines for Health Professionals: National Asthma Council Australia Ltd; 2022. Available from: <a href="https://www.asthmahandbook.org.au/">https://www.asthmahandbook.org.au/</a>.
- 2. Global Initiative for Asthma. Global Strategy for Asthma Management and Prevention 2024. Available from: http://www.ginasthma.org/.
- 3. Australian Institute of Health and Welfare. Chronic respiratory conditions2023. Available from: <a href="https://www.aihw.gov.au/reports/chronic-respiratory-conditions/first-nations-people-with-asthma#:~:text=According%20to%20the%202018%E2%80%9319,%25)%20and%20anxiety%20(18%25).</a>
- 4. Middleton PG, Gade EJ, Aguilera C, MacKillop L, Button BM, Coleman C, et al. ERS/TSANZ Task Force Statement on the management of reproduction and pregnancy in women with airways diseases. Eur Respir J. 2020;55(2).
- 5. Couillard S, Connolly C, Borg C, Pavord I. Asthma in pregnancy: An update. Obstet Med. 2021;14(3):135-44.
- 6. Clifton V, Murphy V, Grzeskowiak L, Middleton P, Flenady V, McLaughlin K, et al. Position Statement. Asthma management in pregnancy. 2021.
- 7. Murphy VE, Gibson PG, Schatz M. Managing Asthma During Pregnancy and the Postpartum Period. The Journal of Allergy and Clinical Immunology: In Practice. 2023;11(12):3585-94.
- 8. Wiles R, Hankinson B, Benbow E, Sharp A. Making decisions about radiological imaging in pregnancy. BMJ. 2022;377:e070486.
- Agency for Clinical Innovation (ACI) Emergency Care Institute. Medical imaging in pregnancy NSW Government2022
  [15 April 2025]. Available from: <a href="https://aci.health.nsw.gov.au/networks/eci/clinical/ed-factsheets/medical-imaging-in-pregnancy">https://aci.health.nsw.gov.au/networks/eci/clinical/ed-factsheets/medical-imaging-in-pregnancy</a>.



## Acknowledgements

The South Australian Perinatal Practice Guidelines gratefully acknowledge the contribution of clinicians and other stakeholders who participated throughout the guideline development process particularly:

### Write Group Lead

Belinda Nitschke

Vanessa Tilbrook

### **Write Group Members**

Dr Mark Morton

### **Other Major Contributors**

Bianca Bartel

Dr Gemma Hardi

Dr Michael McEvoy

Dr Anthia Rallis

### **SAPPG Management Group Members**

Dr Michael McEvoy (Chair)

Monica Diaz (SAPPG EO)

Dr Elizabeth Allen

Elise Bell

Dr Angela Brown

Marnie Campbell

John Coomblas

Dr Danielle Crosby

Imogen Downard John

Kate Greenlees

Luke Grzeskowiak

Kathryn Hansen

Dr Gemma Hardi

Dr Susie Keynes

Belinda Nitschke

Dr Angela Mathew

Dr Scott Morris

Dr Amanda Poprzeczny

Dr Anthia Rallis

Amy Rigano

Dr Shruti Tiwari

Sally Wadsworth

Allison Waldron



#### Suggested citation:

Nitschke B, Tilbrook V. Asthma in Pregnancy [Internet]. Version 3. Adelaide (AU): South Australian Perinatal Practice Guideline; SA Health, Government of South Australia; 2025. 17 p. Guideline No.: PPG038. Available from: <a href="http://www.sahealth.sa.gov.au/perinatal">http://www.sahealth.sa.gov.au/perinatal</a>.

### OFFICE USE ONLY

## Document Ownership & History

Developed by: Maternal, Neonatal and Gynaecology Strategic Executive Leadership

Committee

Contact: HealthCYWHSPerinatalProtocol@sa.gov.au

Approved by: Clinical Guidelines Domain Custodian

Next review due: 21/05/2030 CGSQ reference: PPG038

**Guideline history:** Is this a new perinatal practice guideline (V1)? **N** 

Does this perinatal practice guideline amend or update an existing

perinatal practice guideline? Y
If so, which version? V2

Does this perinatal practice guideline replace another perinatal practice

guideline or policy with a different title? N

If so, which perinatal practice guideline or policy (title)?

Approval Date	Version	Who approved New/Revised Version	Reason for Change
21/05/2025	V3	Clinical Guidelines Domain Custodian	Formally reviewed in line with 1–5 yearly scheduled timeline for review.
20/02/2012	V2	SA Maternal & Neonatal Clinical Network	Formally reviewed in line with 1–5 yearly scheduled timeline for review.
06/05/2004	V1	SA Maternal & Neonatal Clinical Network	Original approved version.

