

Asthma in Pregnancy

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Background – About Asthma in Pregnancy

- In pregnancy, asthma control improves in one third of women and worsens in one third.
- Flare-ups can occur at any time, but are more common in the late second trimester.
- Acute asthma is rare in labour.
- Poorly controlled asthma is associated with an increased risk of complications including intrauterine growth restriction, pre-term delivery, and increased perinatal mortality.

Assessment

Assessment of asthma in pregnancy is the same as for other adults.

1. If acute asthma:
 - quickly assess patient while initiating bronchodilator treatment:
 - Decide whether asthma is the most likely diagnosis.
 - Exclude other diagnoses e.g., pneumonia, pneumothorax, or hyperventilation.
 - decide on the **severity** of the asthma.

Severity

- *Life-threatening if:*
 - *exhaustion, reduced consciousness, or collapse.*
 - *cyanosis.*
 - *oxygen saturation < 90%.*
 - *poor respiratory effort, quiet or absent breath sounds.*
 - *Severe if:*
 - *use of accessory neck, intercostal muscles, tracheal tug, or sub costal recession.*
 - *speech in phrases or words only.*
 - *visibly breathless or heart rate (HR) > 110.*
 - *oxygen saturation 90 to 94%.*
 - *peak expiratory flow (PEF) < 50% of usual.*
 - *Mild to moderate if:*
 - *PEF > 50% of usual.*
 - *speaking whole sentences and able to walk, and*
 - *oxygen saturation > 95%, and*
 - *HR < 110, respiratory rate (RR) < 25.*
2. If non-acute asthma:
 - Make a diagnosis by collecting evidence of:
 - **suggestive features** and **associations**, or

Associations

- *Improvement with short-acting beta-agonist*
- *Diurnal or seasonal variation*
- *Atopy*
- *Childhood symptoms*
- *Family history of asthma or atopy*

Suggestive features

- *Episodic breathlessness*
- *Wheezing*

- Chest tightness
- Cough

- **Airway reversibility on spirometry.**

- > 12% or > 200 mL with bronchodilator use on spirometry.
- In difficult diagnoses, use bronchial provocation tests.

See also [Spirometry Interpretation](#).

- Exclude other **conditions with similar symptoms** to asthma.

Conditions with similar symptoms to asthma

- Poor cardiopulmonary fitness
- Pulmonary embolus
- COPD
- Bronchiectasis
- Upper airway abnormalities e.g., laryngospasm
- Lung cancer
- Heart failure
- Obesity
- Gastro-oesophageal reflux
- Rhinitis/rhinosinusitis
- Anxiety/hyperventilation
- Exercise induced bronchospasm after years of high intensity training in athletes

- Identify:
 - **risk factors for adverse outcomes**, and

Risk factors for adverse outcomes

Adverse Outcome	Medical history	Investigation	Other factors
<ul style="list-style-type: none"> ● Acute exacerbation 	<ul style="list-style-type: none"> ● Poor control ● Any exacerbation in past year ● Other lung disease ● Difficulty perceiving airflow limitation 	<ul style="list-style-type: none"> ● Poor lung function ● Serum eosinophilia 	<ul style="list-style-type: none"> ● Cigarette smoke ● Mental illness, substance abuse
<ul style="list-style-type: none"> ● Life-threatening asthma 	<ul style="list-style-type: none"> ● Ever intubated or admitted to Intensive Care Unit ● Hospitalisation or Emergency Department visit in last month ● Delayed presentation ● History of brittle asthma ● > 2 hospitalisations or Emergency Department visit in past year ● Cardiovascular disease 	<ul style="list-style-type: none"> ● Sensitivities to unavoidable triggers 	<ul style="list-style-type: none"> ● Delaying or discontinuing oral corticosteroids (OCS) ● No written Asthma Action Plan ● Inadequate treatment ● Living alone ● Poor access to healthcare ● Mental illness, substance abuse

<ul style="list-style-type: none"> Accelerated decline in lung function 	<ul style="list-style-type: none"> Chronic mucus production Severe exacerbation when not taking ICS 	<ul style="list-style-type: none"> Poor lung function Serum eosinophilia 	<ul style="list-style-type: none"> Cigarette smoke Occupational asthma
<ul style="list-style-type: none"> Treatment-related side effects 	<ul style="list-style-type: none"> Long-term high dose ICS Frequent OCS 		<ul style="list-style-type: none"> Anxiety disorder Euphoria with OCS

- triggers** for flare-ups.

Triggers

- Allergens e.g., pollens, dust mites, pets, smoke
- Infections
- Exercise
- Weather events
- Occupational exposure e.g:
 - baking
 - woodwork
 - spray painting
 - welding and metalwork
 - animal work
 - food and chemical processing
 - textile
 - plastics and rubber manufacture
 - exposure to dusts and fumes

- assess **recent asthma control** over the last 4 weeks.

Recent asthma control

Definition of levels of recent asthma symptom control in adults (regardless of current treatment regimen):

Good control	Partial control	Poor control
None of: <ul style="list-style-type: none"> Daytime symptoms > 2 days per week Reliever use > 2 days per week[†] Limitation of activities Night-time symptoms 	One or two of: <ul style="list-style-type: none"> Daytime symptoms > 2 days per week Reliever use > 2 days per week[†] Limitation of activities Night-time symptoms 	Three or more of: <ul style="list-style-type: none"> Daytime symptoms > 2 days per week Reliever use > 2 days per week[†] Limitation of activities Night-time symptoms

[†] Not including SABA taken prophylactically before exercise.

Practice Point

Emphasise medication benefit over risk

Emphasise that the risk of uncontrolled asthma outweighs the risk of using medication.

1. If acute asthma:
 - is severe or life-threatening, arrange immediate [Emergency Department](#) transfer.
 - initiate treatment as per [Asthma in Adults - Acute](#).
2. As part of [preconception assessment](#):
 - encourage good control of asthma with inhaled medication.
 - if poorly controlled or moderate to severe asthma, consider [urgent respiratory assessment](#).
3. Reassure that **asthma medications** are safe to use in pregnancy. Explain that the risk of uncontrolled asthma outweighs the risk of using medication and can lead to adverse consequences, including intrauterine growth restriction and preterm birth.

Asthma medications

Inhaled medication:

- *Salbutamol (Pregnancy A) is the most extensively studied short-acting beta₂ agonist in pregnant women.*
- *Evidence for the safety of long-acting beta₂ agonists is limited, but animal studies and a few human studies have not identified any major issues.*
- *Inhaled corticosteroids are safe in pregnancy.*
- *Prednisolone is safe to use in pregnancy.*
- *Anticholinergics are generally not considered conventional medications for long-term asthma. Before considering the use of this or any nonconventional medications, refer for [respiratory assessment](#).*

See also [Australian Asthma Handbook](#).

4. Once pregnancy is confirmed:
 - arrange early pregnancy booking.
 - clearly document asthma history and medications on referral. Patients with a history of poorly controlled or severe asthma require specialist obstetric care.
 - if under care of a respiratory specialist, advise them of the pregnancy.
5. Review asthma control every 4 to 6 weeks during pregnancy:
 - Emphasise that poor control can put mothers and babies at risk.
 - If poorly controlled or moderate to severe asthma:
 - refer for [urgent obstetric review](#)
 - consider [urgent respiratory assessment](#).
6. Offer [influenza and pertussis vaccination](#) to all pregnant women.
7. If smoker, provide encouragement and information on [smoking cessation](#).

8. If allergic rhinitis, treat with intranasal corticosteroid, as it can worsen asthma control.

Referral

- If severe or life-threatening asthma, arrange immediate [Emergency Department](#) transfer.
- If poorly controlled or moderate to severe asthma:
 - arrange early [pregnancy booking](#).
 - refer for [urgent obstetric review](#).
 - consider [urgent respiratory assessment](#).
 - clearly document asthma history and medications on referral.
- Before considering the use of any nonconventional medications e.g., anticholinergics, refer for [respiratory assessment](#).

Information

For health professionals

Further information

Australian Asthma Handbook – [Download](#)

For patients

- Asthma Australia – [Pregnancy and Asthma](#)
- healthdirect – [Asthma and Pregnancy](#)

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