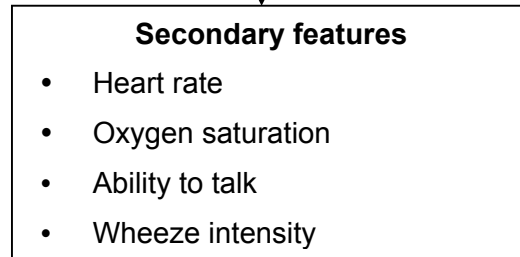
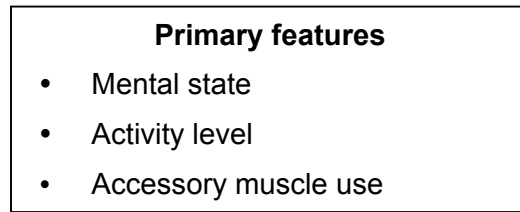
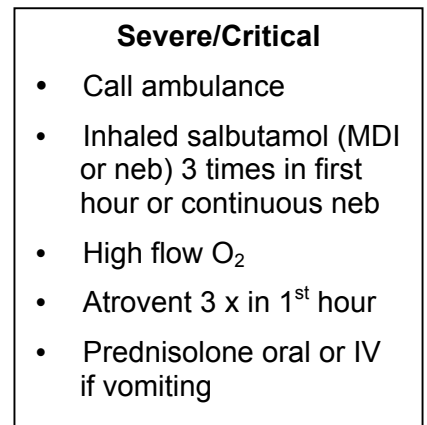
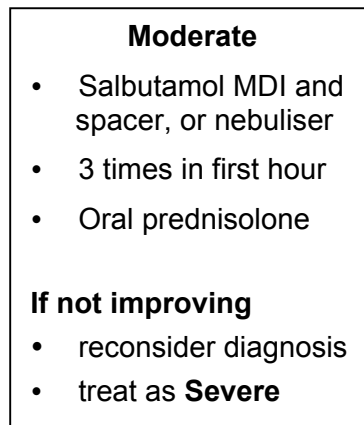
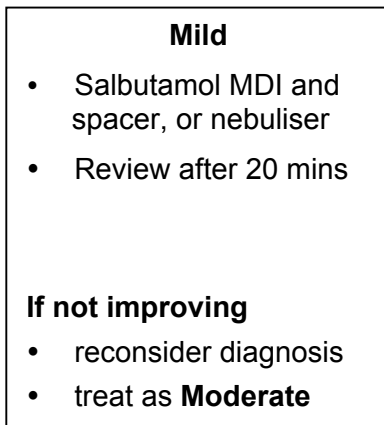


Paediatric asthma - Acute attack

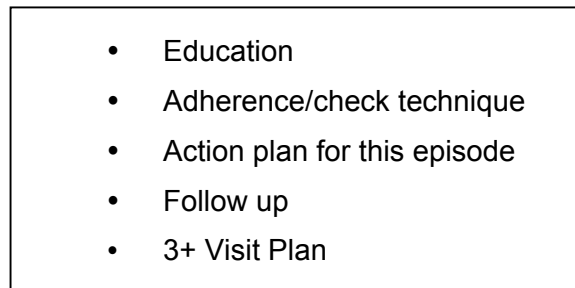
Assessment



Management

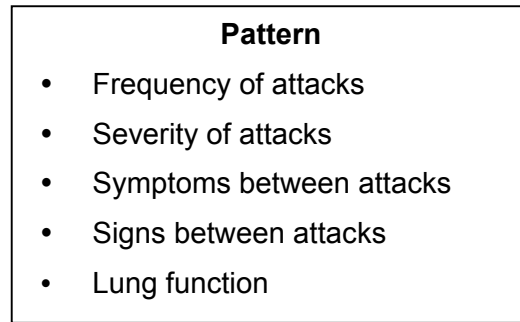
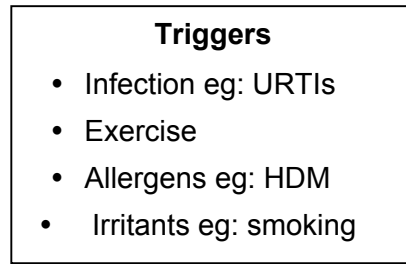


Plan

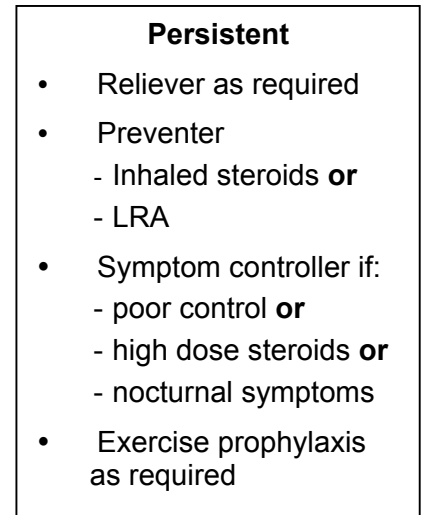
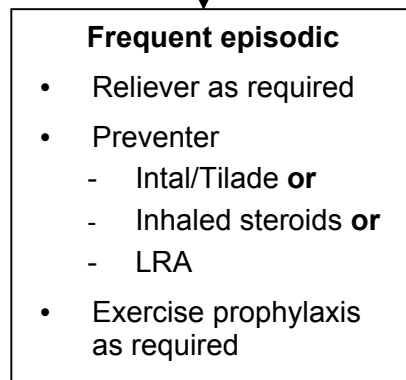
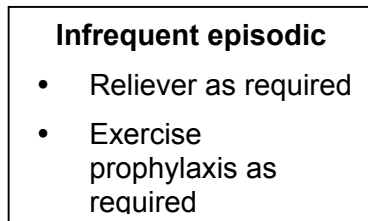


Paediatric asthma - Ongoing management

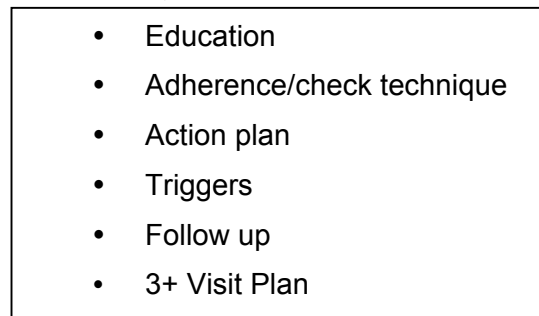
Assessment



Management



Plan



GP Management of Paediatric Asthma

Key Issues 1

DELIVERY OF β AGONIST BY INHALER INTO SPACER

Dose for acute attack

- < 6 years old, 6 puffs into a **small** volume spacer with semi-rigid facepiece.
- \geq 6 years old, 12 puffs into a **large** volume spacer.

Technique

- Shake inhaler initially and after every 6 puffs.
- Inhalation should be given with the mask firmly applied to the face in younger children and with lips around the mouthpiece for older children.
- Give one puff at a time, and repeat.
- If the child uses tidal breathing, take 5-6 breaths per puff.
If the child is able to take larger breaths (this is best), take 1-2 breaths per puff.
- No need to delay between puffs.

EARLY USE OF PREDNISOLONE RECOMMENDED

- For moderate or more severe attacks, give oral prednisolone immediately.
- 1mg/kg/dose once daily for 3 days.
- It may be appropriate to start the prednisolone at home prior to review by GP. This should be documented clearly in the Asthma Action Plan.

ATROVENT NOT GENERALLY REQUIRED

- Ipratopium bromide is only useful for children with **severe** asthma.
- The effect is limited beyond the first hour.
- Atrovent forte (40 mcg/puff) MDI with a spacer
 - < 6 yo – 2 puffs \geq 6 yo – 4 puffs
- Atrovent nebuliser solution
 - < 6 yo – 250 mcg \geq 6 yo – 500 mcg
- Give up to 3 times in the first hour and then cease.

Best Practice Guidelines

GP Management of Paediatric Asthma

Key Issues 2

USE SPACERS

All asthma therapy prescribed as MDI should be delivered through a spacer **regardless of the age** of the child.

SPACER CARE AT HOME

Cleaning

- A spacer should ideally be used by only one patient.
- It should be washed every 2-4 weeks (depending on use).
- Use normal household detergent.

Antistatic measures

- Air dry without washing off the suds.
- **Do not rub the spacer dry** - this causes static electricity which decreases the available dose of medication.

SPACER CARE IN THE SURGERY

Cleaning

- Spacers must be sterilised between patients.
- Only some spacers can be autoclaved without damage.
- The 'Spacechamber' is made of medical grade silicone and is autoclaved intact because minor deformity can occur. It is recommended that it be placed on an inverted tray in the autoclav. It is available as both a small and a large volume spacer.
- The 'Nebuhaler' is a large volume spacer that can also be autoclaved (except the mouthpiece and flange, which can be washed then wiped with 70% alcohol).

If autoclave sterilisation is not possible alternatives are:

- Boil the spacer for at least 5 minutes or
- Thoroughly wash, rinse and dry it prior to wiping the spacer and mouthpiece down with 70 per cent alcohol.

Antistatic measures

After sterilisation:

- The spacer should be rinsed in clean soapy water and left to **air dry**.

To prevent static electricity, **do not rub dry**.

Best Practice Guidelines: Assessment of severity of an acute attack

Primary Features	Mild	Moderate	Severe	Critical
Mental state	Normal	Normal	Agitated	Confused/drowsy
Limitation of Activity	Nil	Minimal	Moderate	Severe
Accessory muscle use	Nil	Minimal	Moderate	Marked

Treatment of an acute attack

	Mild	Moderate	Severe	Critical
			? CALL AMBULANCE	CALL AMBULANCE
Oxygen	No	No	Yes, high flow	Yes, high flow
Inhaled β_2-agonist (salbutamol)	6 or 12 puffs MDI/spacer or nebuliser ¹ <ul style="list-style-type: none"> once review after 20 mins 	6 or 12 puffs MDI/spacer or nebulised ¹ <ul style="list-style-type: none"> 3 x in 1st hr (20 minutely) review 10 mins after 3rd dose 	6 or 12 puffs MDI/spacer or nebulised ² <ul style="list-style-type: none"> 3 x in 1st hr (20 minutely) review 10 mins after 3rd dose 	Nebulised salbutamol continuously ²
Ipratropium	No	No	2 or 4 puffs MDI/spacer or nebulised ³ <ul style="list-style-type: none"> 3 x in 1st hr <u>only</u> 	Nebulised ipratropium ³ <ul style="list-style-type: none"> 3 times in 1st hr <u>only</u> add to salbutamol
Corticosteroids	Usually no	Oral prednisolone 1mg/kg/dose <ul style="list-style-type: none"> once daily for up to 3 days 	Oral prednisolone 1mg/kg/dose <ul style="list-style-type: none"> once daily for 3 days if vomiting give IV 	IV methylprednisolone <ul style="list-style-type: none"> 1mg/kg/dose 6 hrly on day 1

¹ salbutamol (100 mcg/puff) delivered by MDI and spacer: < 6 yo – 6 puffs ≥ 6 yo – 12 puffs
or salbutamol solution in nebuliser delivered by nebuliser: < 6 yo – 2.5 mg ≥ 6 yo – 5 mg

² salbutamol solution 5 mg nebuliser delivered by nebuliser.

³ ipratropium (40mcg/puff) delivered by MDI and spacer: < 6 yo – 2 puffs ≥ 6 yo – 4 puffs
or ipratropium nebuliser solution delivered by nebuliser: < 6 yo – 250 mcg ≥ 6 yo – 500mcg

Best Practice Guidelines

Pattern of Asthma

Treatment

Classification	Common Features	Preventer	Symptom Controller	Reliever
Infrequent Episodic	Episodes 6-8 weeks apart or more Attacks usually not severe Symptoms rare between attacks Normal examination and lung function between episodes	Nil	Nil	β_2 -agonist as needed
Frequent Episodic	Attacks <6 weeks apart Attacks more troublesome Increasing symptoms between attacks Normal examination and lung function between episodes	<u>Sodium cromoglycate</u> ⁱ <u>Nedocromil sodium</u> ⁱ , or Leukotriene receptor antagonist If not responsive (after 6-8 weeks) change ⁱ to <u>inhaled corticosteroid</u> ⁱ	Nil	β_2 -agonist as needed
Persistent	Daytime symptoms >2 days/week Nocturnal symptoms >1 night/week Attacks <6 weeks apart May have abnormal lung function Multiple ED visits or hospital admissions	<u>Inhaled corticosteroids</u>	If on ≥ 400 mcg BDP/ BUD ⁱ or FP ≥ 250 mcg and poorly controlled: add a <u>long acting β_2-agonist</u> ⁱ If symptoms persist consider <ul style="list-style-type: none"> • adherence • leukotriene receptor antagonists • paediatric referral • oral corticosteroids • theophyllines 	β_2 -agonist as needed

ⁱ eg Intal Forte (5mg) 2 puffs t.d.s. for 6 – 8 weeks, then b.d. if asthma controlled.

ⁱ eg Tilade (>2 yo) 2 puffs t.d.s for 6 – 8 weeks, then b.d. if asthma controlled.

ⁱ There is no evidence to support the addition of cromoglycate/nedocromil to inhaled corticosteroids.

ⁱ BDP / BUD 200-400mcg per day or FP 100- 200mcg per day. These may also be used a first line therapy for frequent episodic asthma.

ⁱ Maximum dose of inhaled corticosteroid BDP/BUD 800 mcg/day or FP 500mcg/day

ⁱ **Eformoterol or salmeterol – both are particularly effective for nocturnal symptoms and may be introduced at a lower dose of inhaled corticosteroids**