



PER Case Discussion

VS 王建得 醫師 / R2 沈倩吟



General Data

- Name: 林x臻
- Gender: Girl
- Age: 3 years old
- Chart No.: 001687056H
- PER date: 96/11/12 22:26 pm
96/11/13 09:28 am

A decorative graphic on the left side of the slide features three balloons: a light green one at the top, a light blue one in the middle, and a light purple one at the bottom. Each balloon has a string and several small yellow triangular shapes radiating from it, suggesting movement or light.

Chief Complaint

- Productive cough with dyspnea for one day



Present Illness

- Productive cough, dyspnea today
- No fever, no rhinorrhea, nasal stiffness+
- Ever visited LMD s/p steam inhalation this afternoon
- Vomiting x2 with food material
- No diarrhea, no constipation
- Poor activity and appetite noted after dyspnea



- Contact History:

- A cousin was cough for 3 days without no fever

- Past History:

- Pneumonia, bronchitis, AOM

- Allergic History: denied

- Family History: denied

- Vaccine History: scheduled, influenza-

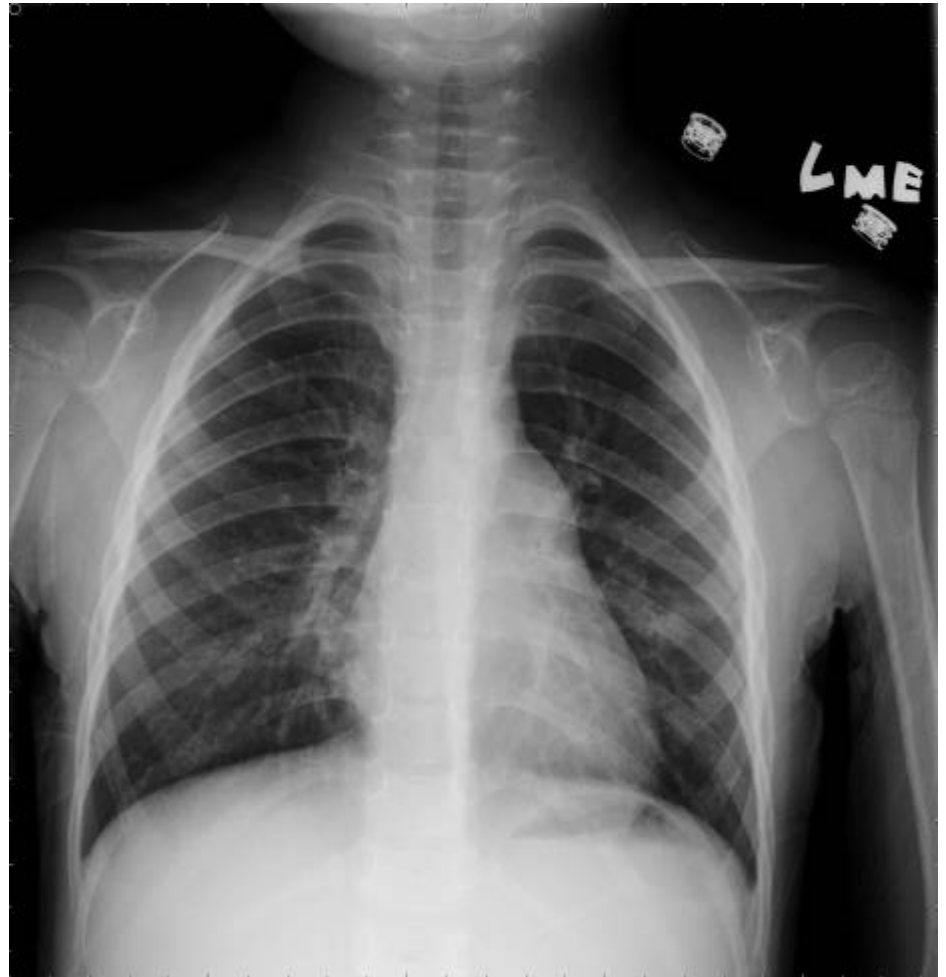


Physical examination

- Vital signs:
 - BT: 36.8C, RR: 35/min, HR: 82/min, BP: 195/62mmHg
- Saturation: 82% in room air
- General condition: Ill looking
- Consciousness: Alert
- HEENT: Injected throat, ulcer-, pus-, mild enlarged tonsil
- normal ear drum
- Heart: RHB, no murmur
- Chest & Lung: Course BS, Rales-, rhonchi+, Wheezing+
- Suprasternal retraction with nasal flaring
- Abdomen: soft, no tenderness, normo-active BoS
- Extremities: freely movable
- NE: no focal signs, DTR+ +/+ +

CXR (11/12)

- Small infiltration in both lungs, may result from chronic infection.



Laboratory data

DATE	TIME	ALB	TP	BIL,T	BIL,D	ALKP	AST	ALT	LDH	NH3	AMY		
961112-	2244							11					
DATE	WBC	RBC	HGB	HCT	MCV	PLT	BLST	NEUT	BAND	SEG	LYM	MON	EOS
961112	16200	4.83	13.6	40.1	83.0	375		89.7			6.1	3.7	0.4
DATE	TIME	NA	K	CL	CA	BUN	CREAT	CRP	LIPASE				
961112-	2244	140	3.7				0.5	1.5					
DATE	TIME	GLUCOSE	KETONE		CK	CKMB	PT-P	PT-C	APTT-P	APTT-C	TRO-T		
961112-	2244	130											
DATE	TIME	PH	PCO2	PO2	SO2	BEB	HCO3	TCO2	HGB				
961112-	2244	7.368	43.5	40	73.1	0.3	25.3	26.6	14.5				



Impression

- Asthmatic bronchitis
- Acute tonsillitis



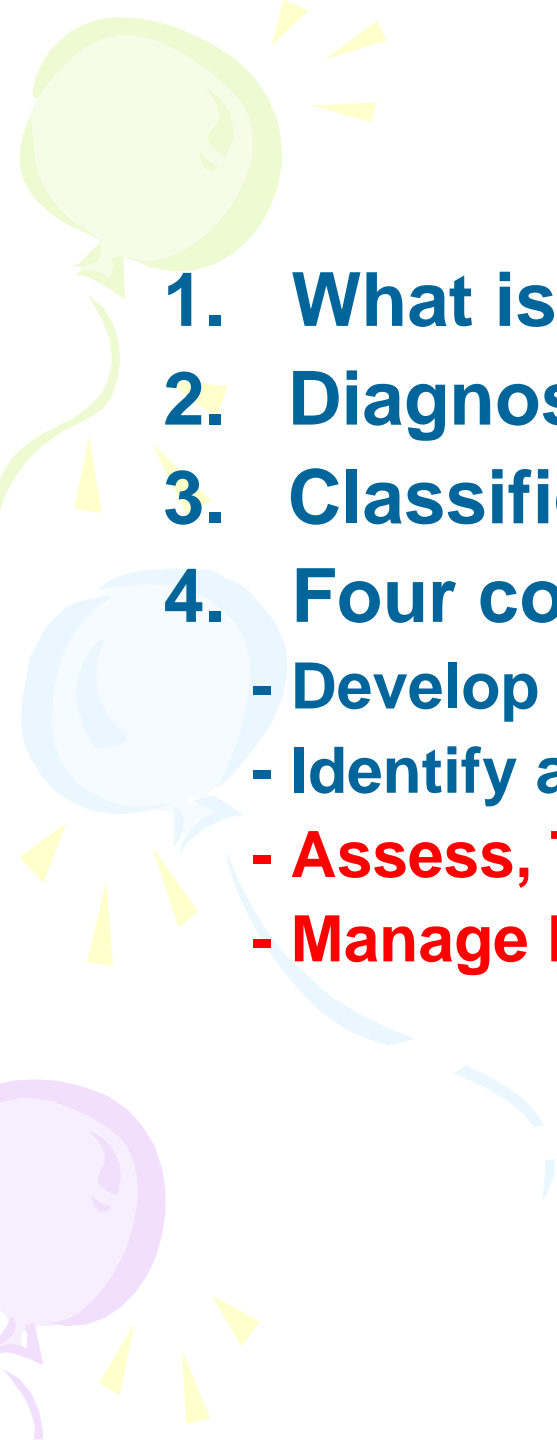
Clinical course

- Solu-cortef 60 mg IVA Q6H (4mg/kg/day)
- Steam inhalation:
 - Ventolin 0.5 AMP Q2HPRN
 - Epinephrine 0.33 AMP Q2HPRN
 - Pulmicort 0.5 EA Q12H
- IV hydration with symptomatic treatment
 - > Sat: 96% under O2 3L/min
- Due to the dyspnea persisted
 - > Admitted to ordinary ward!

POCKET GUIDE FOR ASTHMA MANAGEMENT AND PREVENTION IN CHILDREN



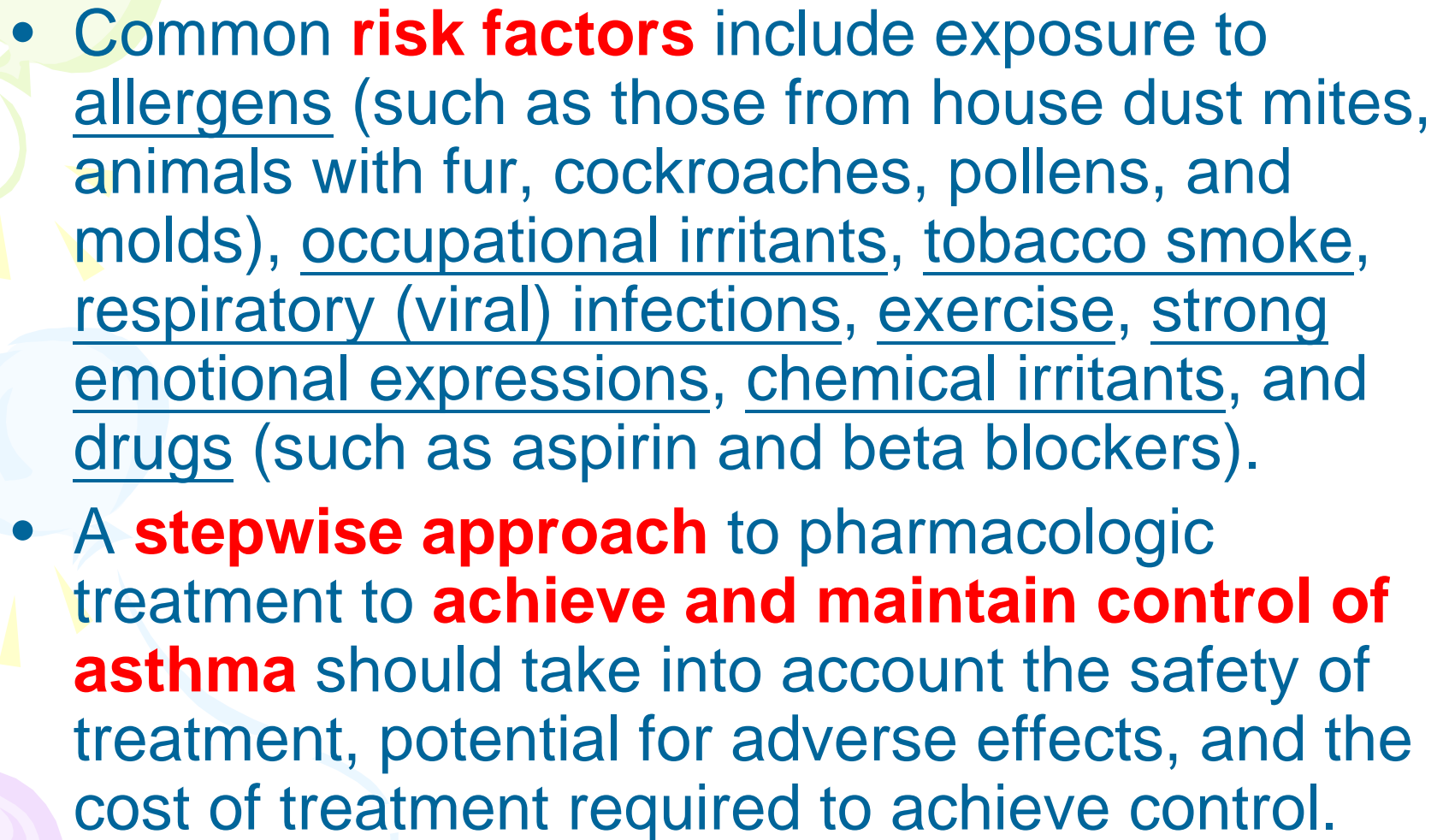
A Pocket Guide for Physicians and Nurses
Revised 2006

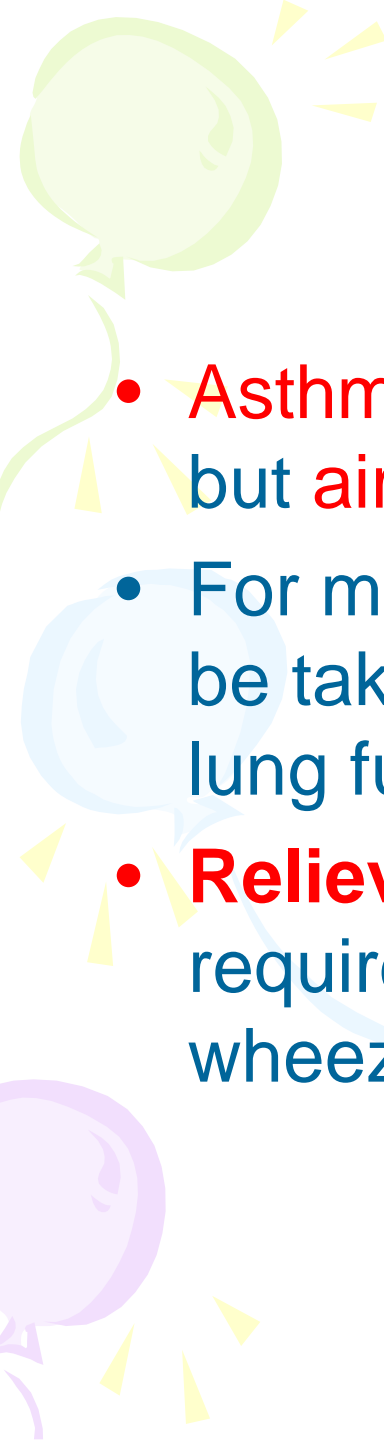
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1. **What is known about asthma?**
 2. **Diagnosing asthma**
 3. **Classification of asthma by level of control**
 4. **Four components of asthma care:**
 - **Develop Patient/Family/Doctor Partnership**
 - **Identify and Reduce Exposure to Risk Factors**
 - **Assess, Treat, and Monitor Asthma**
 - **Manage Exacerbations**



What is known about asthma

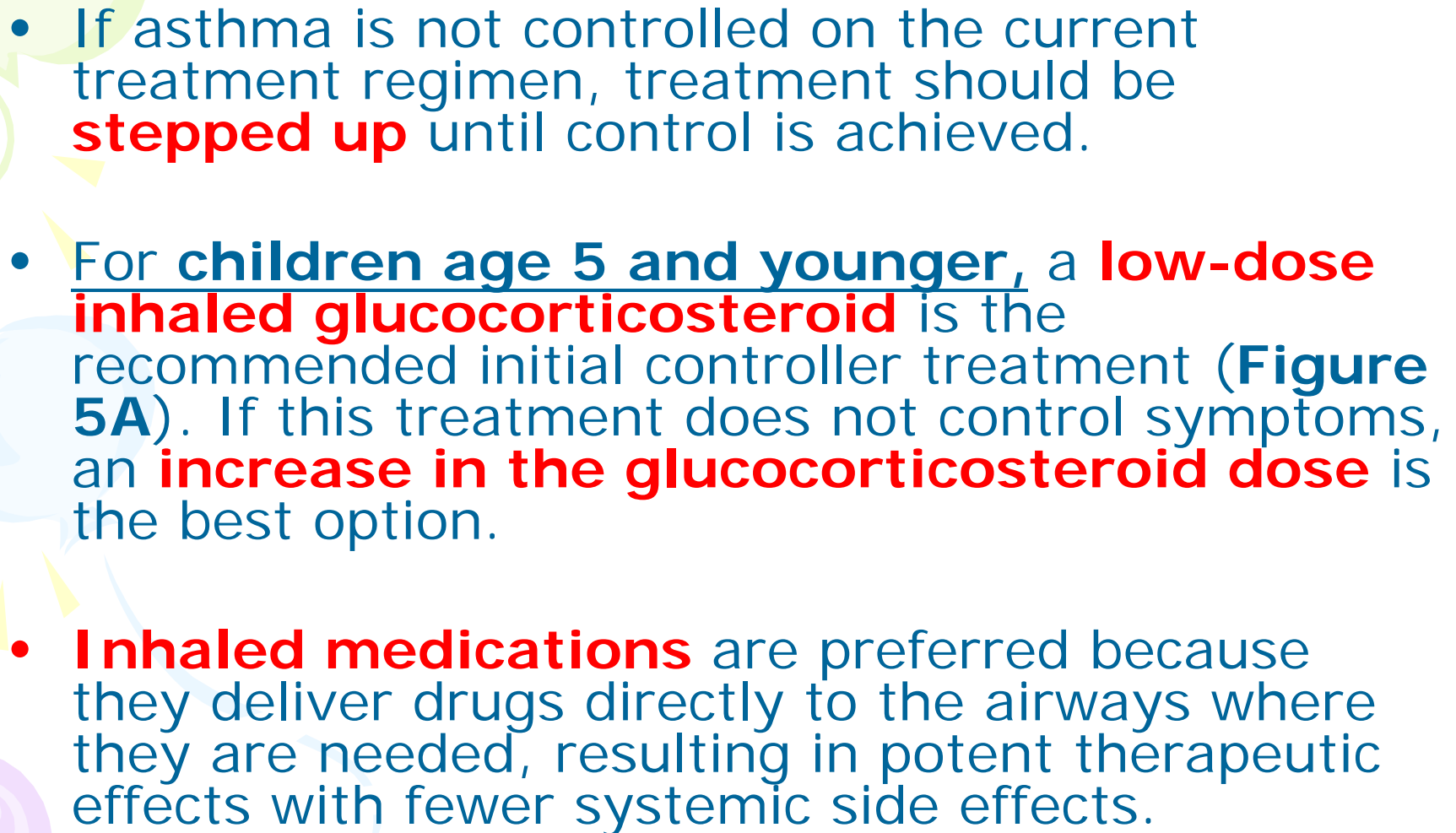
- Asthma causes recurring episodes of **wheezing, breathlessness, chest tightness, and coughing**, particularly at night or in the early morning.
- A **chronic inflammatory disorder** of the airways.
- Chronically inflamed airways are **hyperresponsive**: obstructed, limited airflow (by bronchoconstriction, mucus plugs, and increased inflammation) when airways are exposed to various risk factors.

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- Common **risk factors** include exposure to allergens (such as those from house dust mites, animals with fur, cockroaches, pollens, and molds), occupational irritants, tobacco smoke, respiratory (viral) infections, exercise, strong emotional expressions, chemical irritants, and drugs (such as aspirin and beta blockers).
 - A **stepwise approach** to pharmacologic treatment to **achieve and maintain control of asthma** should take into account the safety of treatment, potential for adverse effects, and the cost of treatment required to achieve control.

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- **Asthma attacks** (or exacerbations) are episodic, but **airway inflammation** is chronically present.
 - For many patients, **controller** medication must be taken daily to prevent symptoms, improve lung function, and prevent attacks.
 - **Reliever** medications may occasionally be required to treat acute symptoms such as wheezing, chest tightness, and cough.

Treating to Achieve Control

- At each treatment step, **reliever medication** should be provided for quick relief of symptoms as needed.
- At Steps 2 through 5, patients also require one or more regular **controller medications**, which keep symptoms and attacks from starting.
- **Inhaled glucocorticosteroids** are the most effective controller medications currently available.
- For most patients newly diagnosed with asthma or not yet on medication, treatment should be **started at Step 2** (or if the patient is very symptomatic, at Step 3).

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- If asthma is not controlled on the current treatment regimen, treatment should be **stepped up** until control is achieved.
 - For children age 5 and younger, a **low-dose inhaled glucocorticosteroid** is the recommended initial controller treatment (**Figure 5A**). If this treatment does not control symptoms, an **increase in the glucocorticosteroid dose** is the best option.
 - **Inhaled medications** are preferred because they deliver drugs directly to the airways where they are needed, resulting in potent therapeutic effects with fewer systemic side effects.



Manage Exacerbations

- Exacerbations of asthma (asthma attacks) are episodes of a progressive increase in shortness of breath, cough, wheezing, or chest tightness, or a combination of these symptoms.
- **Do not underestimate the severity of an attack;** severe asthma attacks may be life threatening.
- Children/adolescents at high risk for asthma-related death require closer attention and should be encouraged to seek urgent care early in the course of their exacerbations:



The patients:

- With a history of near-fatal asthma
- Who have had a hospitalization or emergency visit for asthma within the past year, or prior intubation for asthma
- Who are currently using or have recently stopped using oral glucocorticosteroids
- Who are overdependent on rapid-acting inhaled 2-agonists
- With a history of psychosocial problems or denial of asthma or its severity
- With a history of noncompliance with asthma medication plan

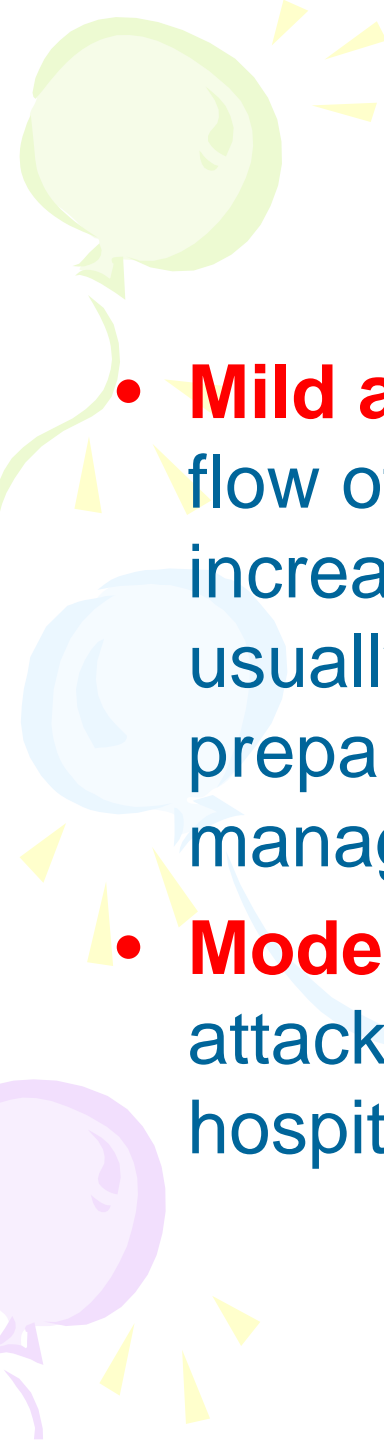
Patients should immediately seek medical care if the attack is **severe**

- The patient is breathless at rest, is hunched forward, talks in words rather than sentences (infant stops feeding), agitated, drowsy or confused, has bradycardia, or a respiratory rate greater than 30 per minute
- Wheeze is loud or absent
- Pulse is greater than:
 - 160/min for infants
 - 120/min for children 1-2 years
 - 110/min for children 2-8 years
- PEF is less than 60 percent of predicted or personal best even after initial treatment
- The child is exhausted



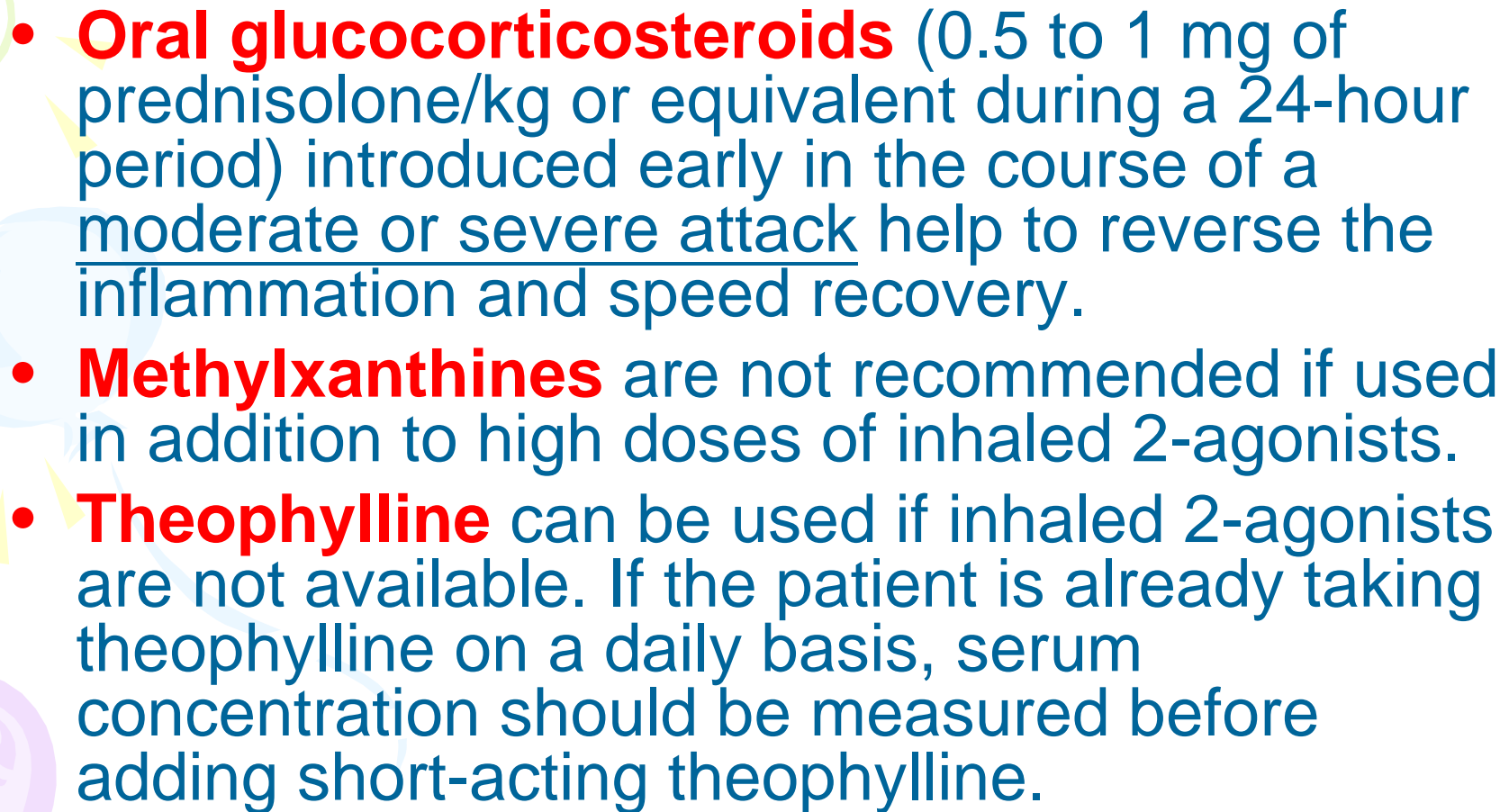
Patients should immediately seek medical care...

- **The response to the initial bronchodilator treatment is not prompt and sustained for at least 3 hours!**
- **There is no improvement within 2 to 6 hours after oral glucocorticosteroid treatment is started!**
- **There is further deterioration!**

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- **Mild attacks**, defined by a reduction in peak flow of less than 20%, nocturnal awakening, and increased use of rapid-acting 2-agonists, can usually be treated at home if the patient is prepared and has a personal asthma management plan that includes action steps.
 - **Moderate attacks** may require, and severe attacks usually require, care in a clinic or hospital.

Asthma attacks require prompt treatment

- Oxygen is given at health centers or hospitals if the patient is hypoxemic (achieve O₂ saturation of **95%**).
- Inhaled rapid-acting 2-agonists in adequate doses are essential:
 - Begin with 2 to 4 puffs every 20 minutes for the first hour
 - mild exacerbations will require 2 to 4 puffs every 3 to 4 hours
 - moderate exacerbations 6 to 10 puffs every 1 to 2 hours

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- The slide features a decorative background with a light green balloon at the top left, a light blue balloon in the middle left, and a light purple balloon at the bottom left. Yellow streamers and triangular flags are scattered around the balloons.
- **Oral glucocorticosteroids** (0.5 to 1 mg of prednisolone/kg or equivalent during a 24-hour period) introduced early in the course of a moderate or severe attack help to reverse the inflammation and speed recovery.
 - **Methylxanthines** are not recommended if used in addition to high doses of inhaled 2-agonists.
 - **Theophylline** can be used if inhaled 2-agonists are not available. If the patient is already taking theophylline on a daily basis, serum concentration should be measured before adding short-acting theophylline.

Therapies not recommended for treating attacks

- Sedatives (strictly avoid).
- Mucolytic drugs (may worsen cough).
- Chest physical therapy/physiotherapy (may increase patient discomfort).
- Hydration with large volumes of fluid for adults and older children (may be necessary for younger children and infants).
- Antibiotics (do not treat attacks but are indicated for patients who also have pneumonia or bacterial infection such as sinusitis).
- **Epinephrine** (adrenaline) may be indicated for acute treatment of anaphylaxis and angioedema but is not indicated during asthma attacks.
- Intravenous magnesium sulphate has not been studied in young children.