

■ What is Asthma?

Asthma is a common and potentially serious chronic disease with many variations (heterogeneous), usually characterized by chronic airway inflammation. Asthma has two key defining features:

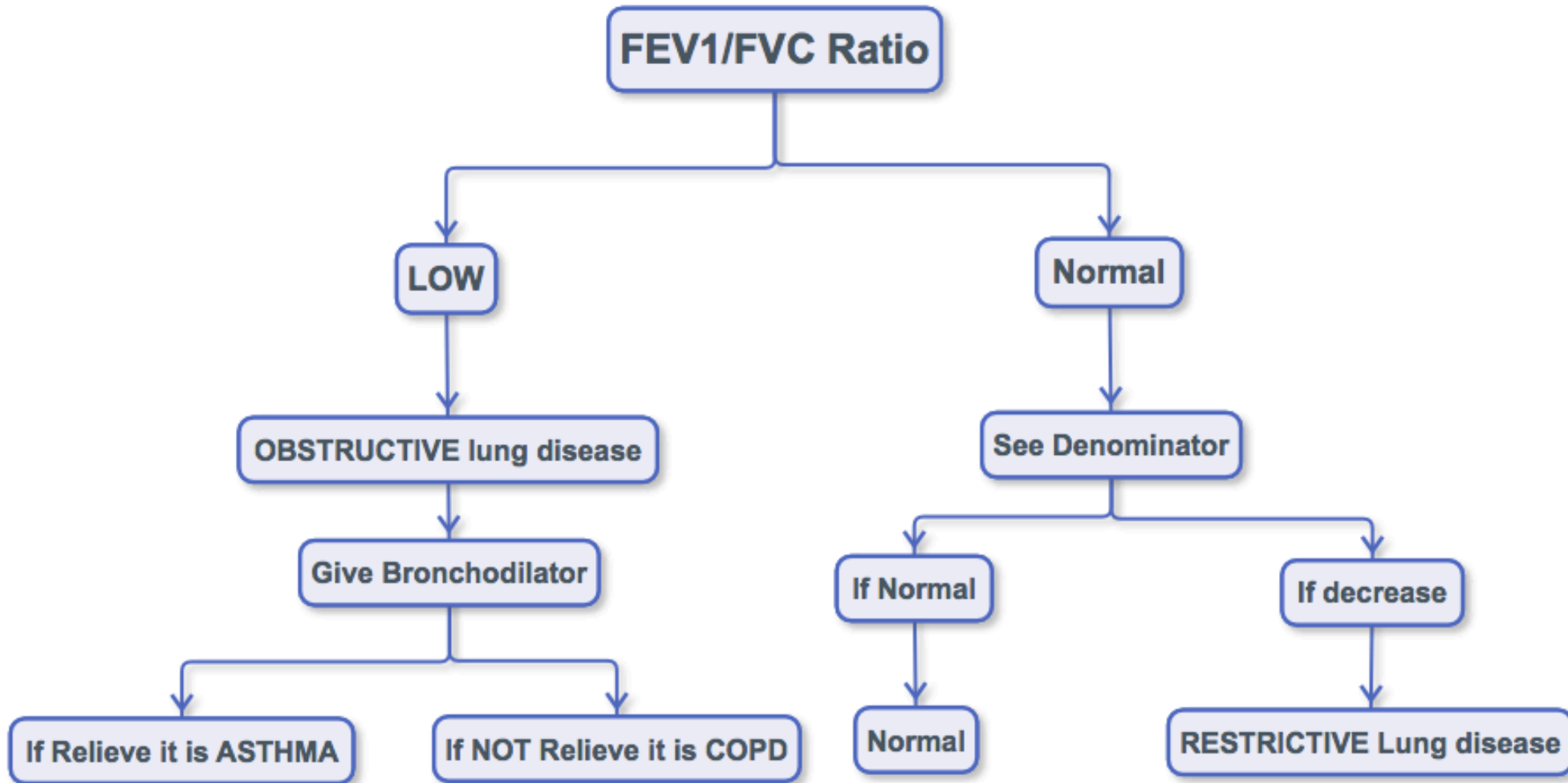
- A history of respiratory symptoms such as wheeze, shortness of breath, chest tightness and cough that vary over time and in intensity, and
- Variable expiratory airflow limitation.

■ CRITERIA FOR MAKING THE DIAGNOSIS OF ASTHMA

1. Typical symptoms are wheeze, shortness of breath, chest tightness, cough

- People with asthma generally have more than one of these symptoms
- The symptoms occur variably over time and vary in intensity
- Worse at night or on waking
- Triggered by exercise, laughter, allergens or cold air
- Worsen with viral infections

2. Spirometry



- FEV= Forced expiratory volume
- FVC= forced vital capacity
- **The FEV1/FVC ratio is normally more than 0.75–0.80 in adults.**

■ Assessment of symptom control

In the past 4 week has the patient had:			Well controlled	Partly controlled	Uncontrolled
Daytime symptoms more than twice/week?	YES	NO	None of these	1–2 of these	3–4 of these
Any night waking due to asthma?	YES	NO			
Reliever needed* more than twice/week?	YES	NO			
Any activity limitation due to asthma?	YES	NO			

■ Risk factors for poor asthma outcomes

- Ever being intubated.
- Uncontrolled asthma symptoms
- Having 1 Attack in the last 12 months.
- Low FEV1
- Sputum or blood eosinophilia
- Obesity
- rhinosinusitis.
- Pregnancy
- Smoking

■ Factors that may trigger or worsen asthma symptoms:

1. Viral infections
2. Domestic or occupational allergens (House dust mite, pollens, cockroach)
3. Tobacco smoke
4. Exercise and stress.
5. Some drugs can induce or trigger asthma, (Beta-blockers, and aspirin or other NSAID)

■ Physical examination

- it is often normal, but the most frequent finding is **wheezing** on auscultation.

➤ DDX of Wheezing other than asthma:

- Foreign body
- Endobronchial obstruction
- Airway Infection

NOTE mentioned by the DR

1. IF the patient complain of chronic cough as the only respiratory symptom it is less likely to be asthma, think of **GERD**.
2. If you have an elderly Patient with productive cough think of **COPD**
3. If the patient complain of shortness of breath, dizziness and numbness think of **Panic Attack**

■ How to ASTHMA Inhaler “important for OSCE”

- Shake the inhaler well before use (3 or 4 shakes)
- Remove the cap
- Breathe out, away from your inhaler
- Bring the inhaler to your mouth. Place it between your teeth and close your mouth around it.
- Start to breathe in **slowly**.
- Press the top of your inhaler once and keep breathing in slowly until you have taken a full breath.
- Remove the inhaler from your mouth, and hold your breath for about 10 seconds, then breathe out.

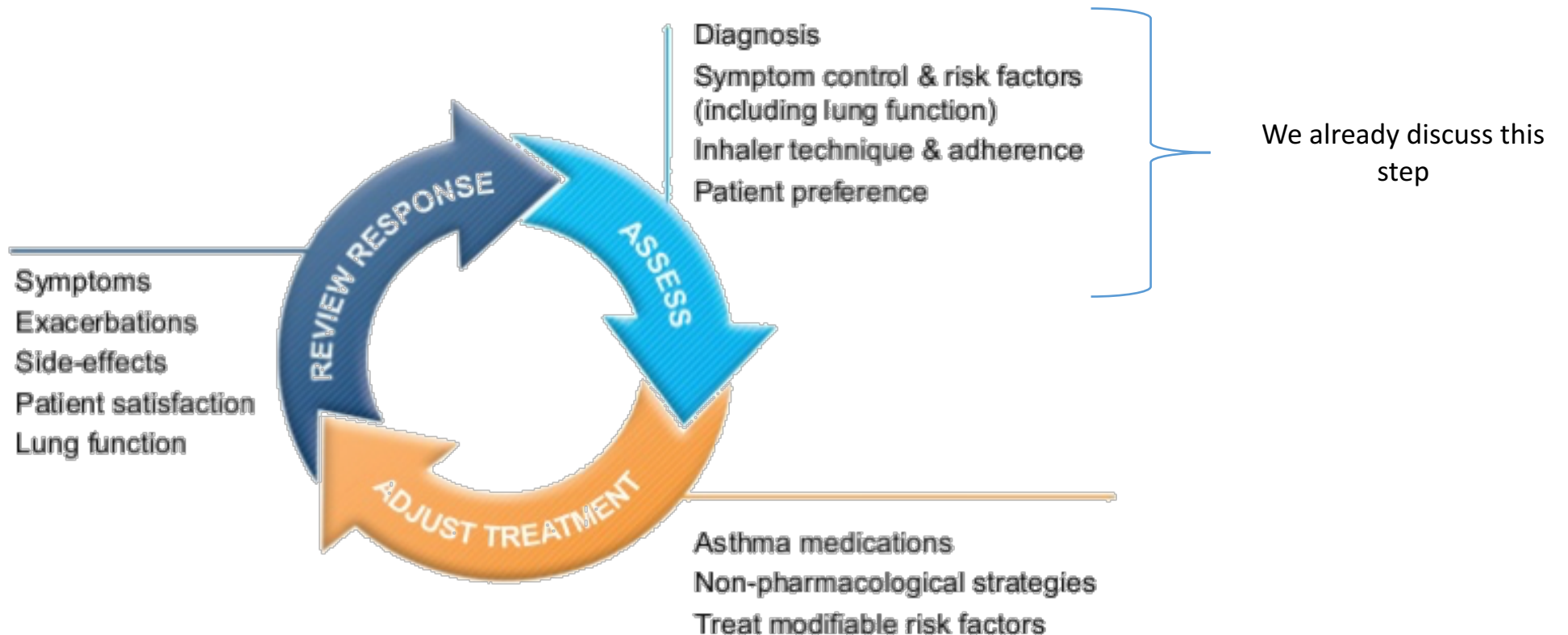
■ Peak Expiratory Flow Meter

- Use the peak flow meter while standing up straight.
- Take in as deep a breath as possible.
- Place the peak flow meter in the mouth, with the tongue under the mouthpiece.
- Close the lips tightly around the mouthpiece.
- Blow out as hard and fast as possible; do not throw the head forward while blowing out.
- Breathe a few normal breaths and then repeat the process two more times. **Write down the highest number obtained**



■ Management Of Asthma

- The long-term goals of asthma management are **symptom control** and **risk reduction**.
- Patient-level treatment decisions should take into account any individual that predict the patient's likely response to treatment, together with the **patient's preferences, and practical issues such as inhaler technique, adherence, and cost**.
- Asthma treatment is adjusted in a continuous cycle to **assess, adjust treatment and review response**



■ Adjust Treatment

1. Medications

- For the best outcomes, regular daily controller treatment should be initiated as soon as possible after the diagnosis of asthma is made, because:
 1. Early treatment with low dose ICS leads to better lung function than if symptoms have been present for more than 2–4 years
 2. Patients not taking ICS who experience a severe exacerbation have lower long-term lung function than those who have started ICS
- **Regular low dose ICS is recommended** for all patients with a diagnosis of asthma and any of the following:
 - Asthma symptoms more than twice a month
 - Waking at night due to asthma more than once a month
 - Any asthma symptoms plus any risk factor(s) for exacerbations
- After starting initial controller treatment
 - Review response after **2–3 months**, or according to clinical urgency
 - Consider step down when asthma has been **well-controlled for 3 months**

■ Stepwise Approach To Asthma Treatment:

STEP 1

• **SABA(Ventolin) with no controller:** This is indicated only if symptoms are rare, there is no night waking due to asthma, no exacerbations in the last year, and normal FEV1.

STEP 2

• **Regular low dose ICS:** the three indication mentioned in the previous slide. If the patient can't take ICS to any reason give **leukotriene receptor antagonist***

STEP 3

• **low dose ICS/LABA**:** low dose ICS/Formoterol for maintenance and reliever therapy

STEP 4

• **Med-High ICS/LABA**

* If the patient has Allergic Rhinitis

** We do NOT give Long Acting Beta Agonist alone/ also NOT for children < 11 years

- ✓ Remember to check the technique before moving to the next step
- ✓ Short Acting Beta Agonist (Ventolin) it Exists in all steps.
- ✓ For more details please check the Asthma Guide

✓ Managing Exacerbations In Primary Or Acute Care

- immediately **give inhaled SABA, inhaled ipratropium bromide, oxygen and systemic corticosteroids.**
- Do not routinely perform chest X-ray or blood gases, or prescribe antibiotics, for asthma exacerbations.

2. Treating Modifiable Risk Factors

- Guided self-management: self-monitoring of symptoms and/or PEF, a written asthma action plan
- Use of a regimen that minimizes exacerbations: prescribe an ICS- containing controller.
- Avoidance of exposure to tobacco smoke
- Confirmed food allergy.

3. Non-pharmacological Strategies And Interventions

- Smoking cessation advice
- Physical activity: encourage people with asthma to engage in regular physical activity
- Occupational asthma: ask all patients with adult-onset asthma about their work history.
- NSAIDs including aspirin

■ Review response:

✓ How often should patients with asthma be reviewed?

Patients should preferably be seen 1–3 months after starting treatment and every 3–12 months after that, except in pregnancy when they should be reviewed every 4–6 weeks. After an exacerbation, a review visit within 1 week should be scheduled

✓ **Stepping up asthma treatment** : if symptoms and/or exacerbations persist despite 2–3 months of controller treatment, assess the following common issues before considering a step-up

- Incorrect inhaler technique
- Poor adherence
- Modifiable risk factors, e.g. smoking
- Are symptoms due to comorbid conditions, e.g. allergic rhinitis

✓ **Stepping down treatment when asthma is well-controlled**

- Consider stepping down treatment once good asthma control has been achieved and maintained for 3 months, to find the lowest treatment that controls both symptoms and exacerbations, and minimizes side-effects.
- Choose an appropriate time for step-down (no respiratory infection, patient not travelling, not pregnant)
- Do not completely withdraw ICS in adults

■ Patient education:

1. Patient education is an important step in any management plan. You need to explain to the patient:

- What is asthma?
- What are triggers? How to avoid them?
- How to use inhalers? When to use them?
- What are Side effects of medications?
- What are the benefit from the medications?

2. Provide skills training for effective use of inhaler devices, to ensure effective inhaler use:

- **Choose** the most appropriate device for the patient before prescribing: consider medication, physical problems e.g. arthritis, patient skills, and cost.
- **Check** inhaler technique. Ask the patient to show you how they use the inhaler
- **Correct** using. Check technique again, up to 2–3 times if necessary.

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