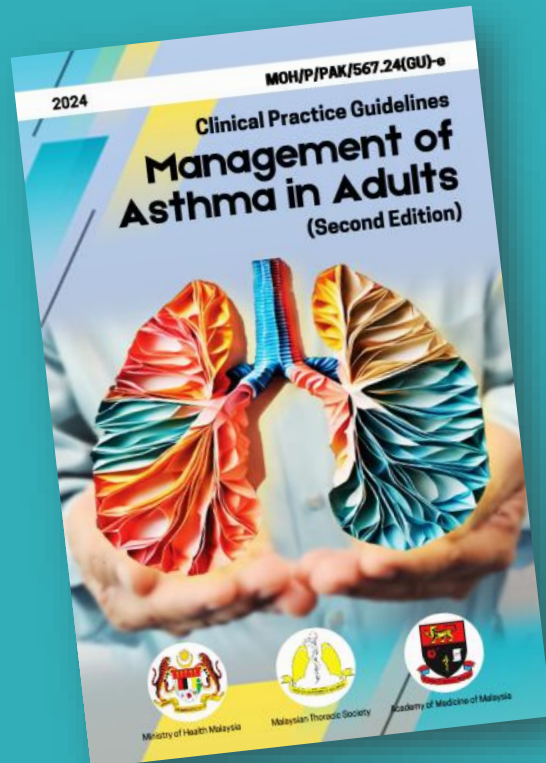


# TRAINING OF CORE TRAINERS ON CPG

## MANAGEMENT OF ASTHMA IN ADULTS (SECOND EDITION)

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### CASE DISCUSSION 3

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## CASE 1



# History

- A 28-year-old woman, G2P1 at 26 weeks of gestation, presents to the Klinik Kesihatan for follow-up.
- She has a history of asthma, which was well-controlled before pregnancy, with no history of previous hospital admission.
- Her previous inhalers were MDI Budesonide 2 puff BD and MDI Salbutamol 2 puff PRN.
- She has stopped taking these inhalers ever since she found out that she was pregnant.



# History cont..

- On further questioning, she has worsening shortness of breath, wheezing, and nocturnal awakenings for the past 3 weeks
- She has symptoms of allergic rhinitis, which has also worsened in the past 1 month
- Triggers: Dust, URTI
- ACT score: 16/25



# On examination

- Alert, conscious, speaking in full sentences,
- RR 22/ min, PR 118 beats/ min, Afebrile
- BP 120/78 mmHg
- SPO2 95% under room air
- Lungs: Bilateral ronchi, prolonged expiratory phase
- JVP not raised, CVS: S1S2, no murmur heard
- Abd : gravid uterus
- No pedal edema , no calf tenderness

# Question 1



What is your provisional diagnosis?

- A. Congestive cardiac failure
- B. Pneumonia
- C. Pulmonary embolism
- D. Uncontrolled asthma



# Key messages

- Asthma during pregnancy may worsen, improve, or remain unchanged.
- Pregnant women are particularly susceptible to asthma exacerbations, especially during the second trimester.
- The diagnosis of asthma in pregnancy is made similarly to that in non-pregnant women.
- In patients where clinical history is consistent with asthma and no alternative diagnosis is found, asthma treatment may be initiated, and the confirmatory diagnostic investigations can be postponed until after delivery.



## Question 2

What tools can be used to assess and monitor asthma control in pregnant patients?

- A. ACT score
- B. GINA classification on asthma control
- C. Spirometry
- D. Chest radiograph
- E. Fractional Exhaled Nitric Oxide (FeNO)
- F. Bronchial provocation test





# Question 3

How would you treat this patient?

- A. Restart MDI Budesonide 2 puff bd and MDI Salbutamol 2 puff prn
- B. Oral corticosteroids
- C. MDI Salbutamol 2 puff prn
- D. T. Neulin SR
- E. Montelukast (leukotriene receptor antagonist)



# Key messages

- Treatment of asthma during pregnancy provides **more benefits** than the potential risks associated with commonly used asthma medications
- The treatment of asthma in pregnancy is the same as in non-pregnant patients as listed below.
- **ICS is safe** and remains the preferred long-term maintenance and should be continued.
- **Inhaled  $\beta$ 2-agonists and LTRA are safe** and should be continued.



# Progress 4 weeks later...

- She is asymptomatic.
- ACT score is 24
- She can carry out her daily activities without limitations.
- SpO<sub>2</sub> is 100% on room air
- Lungs auscultation: no ronchi

# Question 4



How often should she be monitored, and can we step down the treatment?



## CASE 2

### Severe Asthma

# History



- Mr Aiman, a 45-year-old works as a factory worker
- He was referred to the Respiratory Clinic from Klinik Kesihatan for further management of his poorly controlled asthma
- Asthma since childhood and has allergic rhinitis
- Smokes socially with 5 pack-years
- He is prescribed budesonide/formoterol 160/4.5mg 2 puffs BD, which has recently increased to 2 puffs BD and PRN due to his persistent symptoms.
- Other medications include montelukast 10mg ON

# Question 1



What further history would you like to know?



# Further history..

- He has almost daily symptoms of breathlessness with frequent nocturnal awakenings at least 2 times per week due to asthma.
- He uses reliever therapy at least 4 times per week
- He has to take frequent MCs from work
- Over the past year, he has had 3 exacerbations requiring oral corticosteroids and 1 hospital admission
- He has good adherence to his inhaler
- He has daily symptoms of a runny nose, especially in the morning.
- Occasionally, he suffers from gastro-oesophageal reflux.
- He is considering quitting smoking



# Question 2



How would you assess his symptom control?



# On further assessment

- Inhaler technique – poor inspiratory effort
- Occasional wheeze, no clubbing or crepitations
- CXR: Clear lung fields
- Spirometry :
  - $FEV_1$  55% of predicted &  $FEV_1/FVC$ : 0.65
  - Reversibility test: +13%
- Fractional Exhaled Nitric Oxide (FeNO): 65 ppb
- Blood Eosinophils: 350 cells/ $\mu$ L
- ENT diagnosed as chronic rhinosinusitis with nasal polyps & started on nasal corticosteroid spray
- Gastro started on esomeprazole
- Refer to the smoking cessation clinic



# What has been done..

- The patient's current medication - DPI budesonide-formoterol 160/4.5mcg 2 puffs BD and PRN is discontinued

**AND**

- pMDI beclomethasone-formoterol 100/6 mcg 2 puffs BD and PRN is prescribed with the addition of a spacer

**AND**

- The patient is taught the correct inhaler technique by RMTAC pharmacy



# Review at the next follow-up

- Still has daily and nocturnal symptoms. Needs reliever 2-3 times per week.
- Inhaler technique and adherence good
- Stopped smoking
- Allergic rhinitis symptoms and GERD symptoms well controlled on current medication

	BASELINE	CURRENT
ACT score	12	16
FeNO	65ppb	60ppb
Blood eosinophils	350	350

- Patient was initiated on LAMA but at review 1 month later he remains the same.

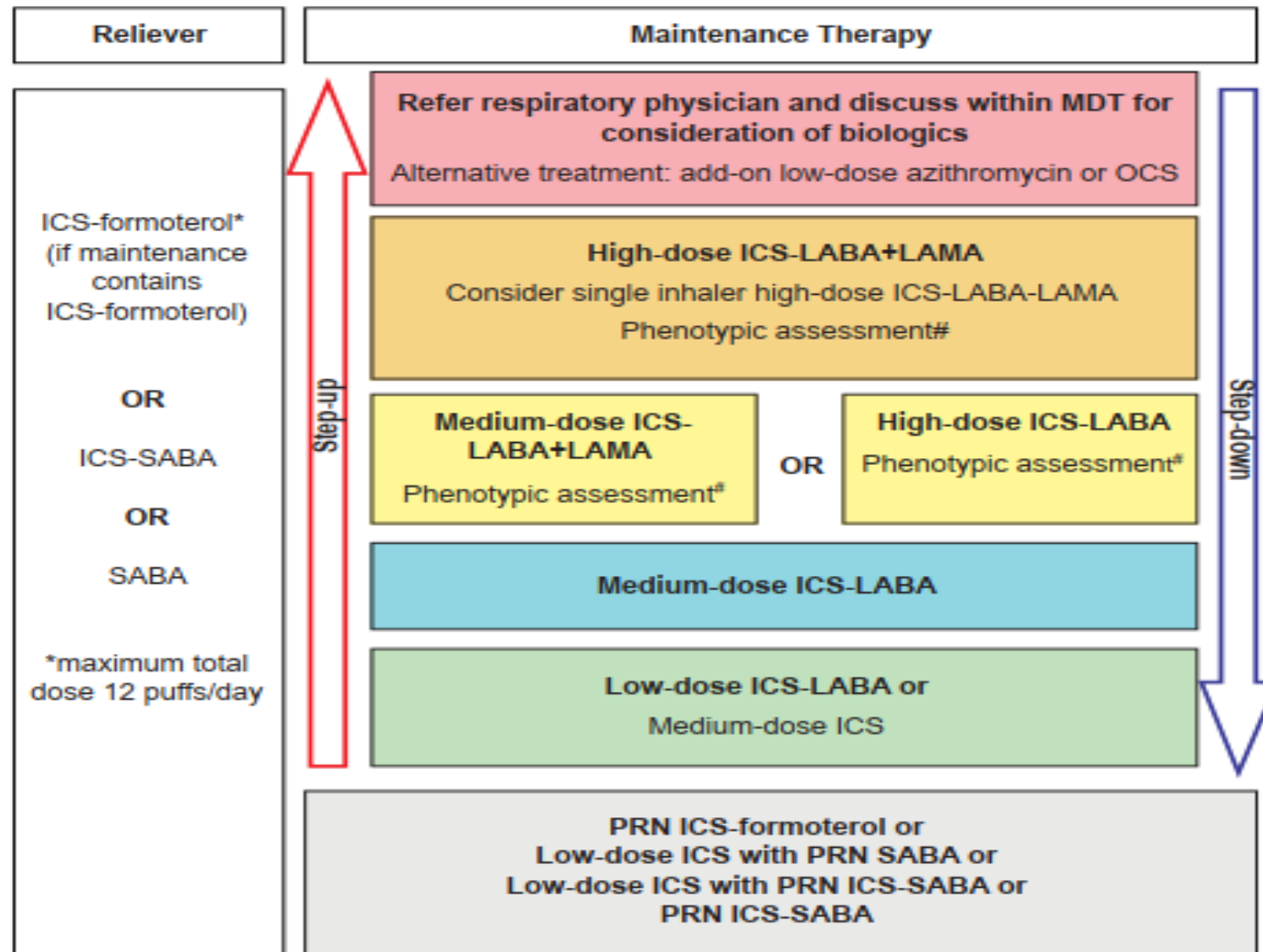
# Question 3



Is this uncontrolled asthma, difficult-to-treat asthma or severe asthma?

## ALGORITHM 2: STEP UP AND STEP DOWN OPTIONS IN MANAGEMENT OF STABLE ASTHMA

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**Note:** LTRA may be added to maintenance therapy if the patient has concurrent allergic rhinitis.

Refer to **Table 7** for ICS dosing category

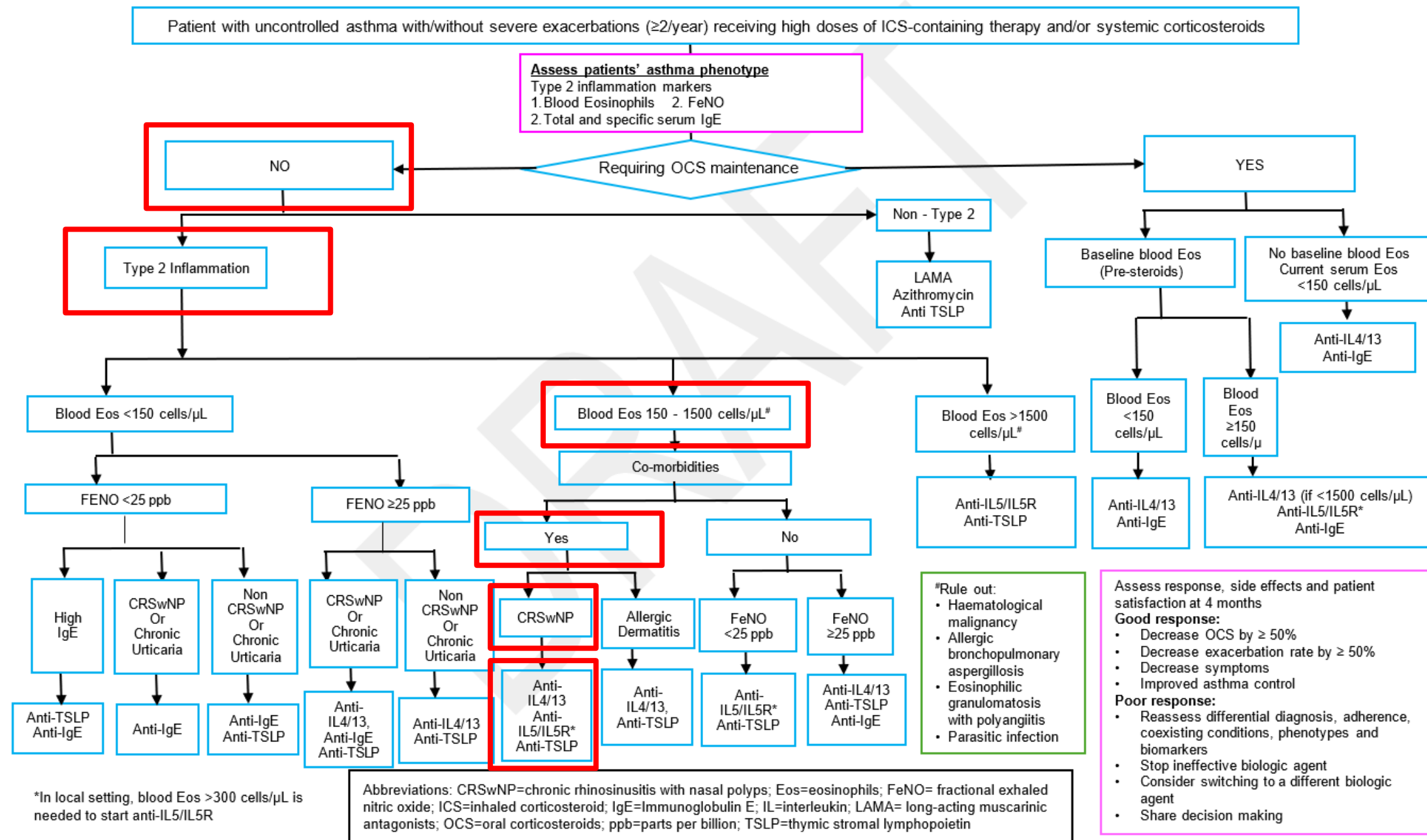
<sup>#</sup>phenotypic assessment should be done at this stage upon stepping up



This patient has severe asthma and should be considered for biologic therapy.

- This subgroup of patients should be under specialist care.

## ALGORITHM FOR BIOLOGIC THERAPY SELECTION IN SEVERE ASTHMA





# Thank You!!



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