

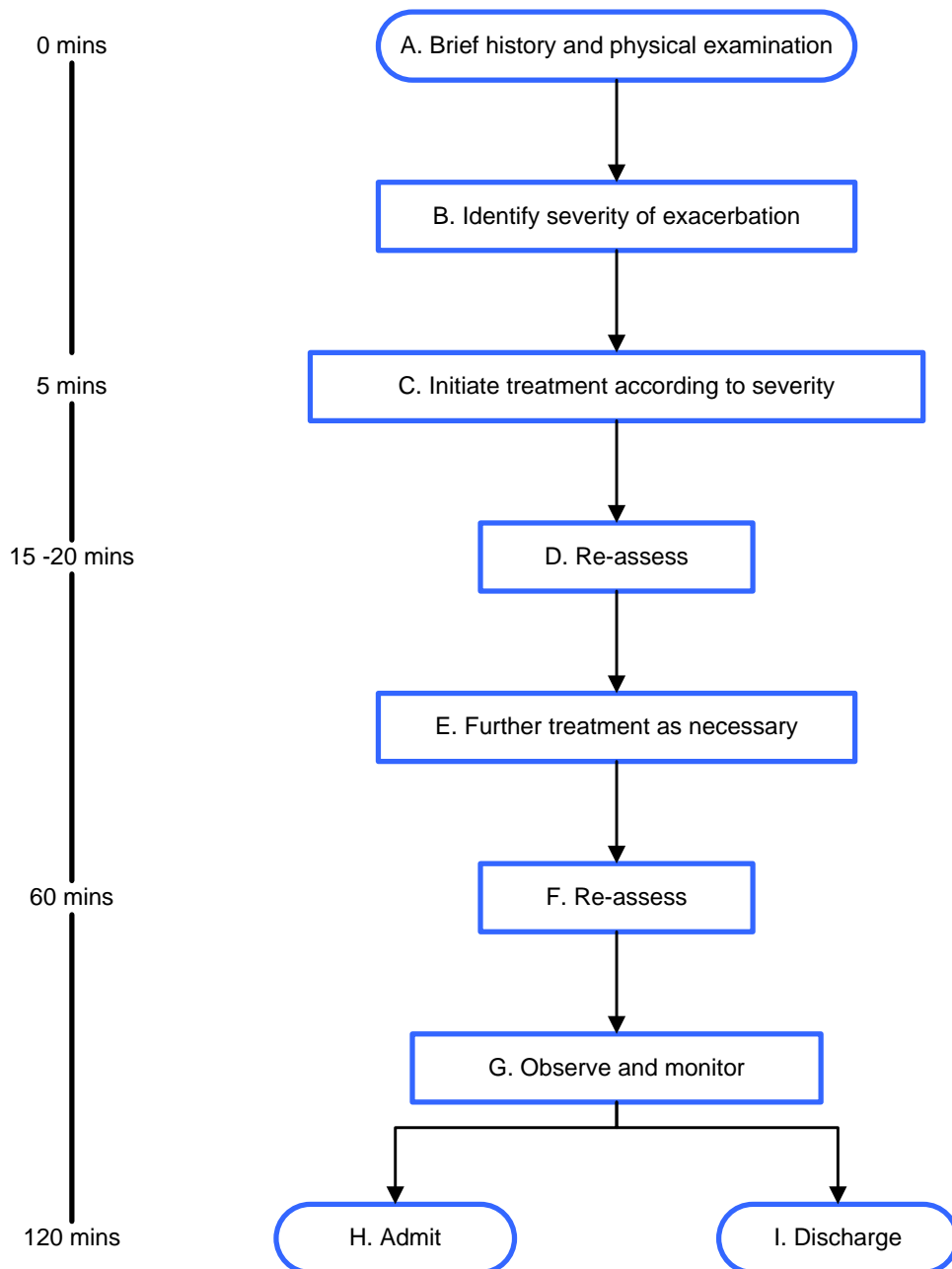
Acute Asthma Management Guideline

DEPARTMENT OF MEDICINE



Advisory, not mandatory

Acute asthma shall be managed according to the following algorithm which is explained in detail within this guideline.



This is a clinical practice guideline and does not in any way replace or supersede the clinical discretion necessary in its implementation



Advisory, not mandatory

A. INITIAL ASSESSMENT

| Brief History |
|--|
| SOB, cough, wheeze, chest tightness |
| Time of onset |
| Potential cause for exacerbation |
| Severity |
| Exercise limitation |
| Sleep disturbance |
| Drug history/doses/compliance |
| Response to therapy |
| Hospitalisations/A&E visits in past year |
| Comorbidities |

| Physical Examination |
|------------------------------------|
| Heart rate (HR) |
| Respiratory rate (RR) |
| Blood pressure |
| Pulse oximetry (SpO ₂) |
| Peak expiratory flow rate (PEFR) |
| Cyanosis |
| Use of accessory muscles |
| Ability to speak |
| Auscultation |
| GCS |

B. IDENTIFY SEVERITY OF EXACERBATION

| | | Mild-Moderate | Acute severe | Life threatening |
|-----------------------|---------------------------------|--|----------------------------|---|
| Symptoms | SOB | walking - at rest can lie - prefers sitting | at rest prefers sitting | poor respiratory effort sits upright |
| | Talks in | sentences - phrases | words | unable to speak |
| | Alertness | may be agitated | usually agitated | drowsy or confused |
| Signs | HR | < 110 bpm | > 110 bpm | bradycardia |
| | Accessory muscle use | usually not - commonly | usually | paradoxical thoraco-abdominal movement |
| | Wheeze | moderate-loud | usually loud | silent chest |
| | Other | | RR ≥ 25/min | cyanosis arrythmia, hypotension |
| Functional Assessment | SpO₂ (on Air) | ≥ 92% | ≥ 92% | < 92% |
| | PEFR | >50-75% best/predicted | 33-50% best/predicted | <33% best/predicted |

CXR if suspecting: pneumothorax/consolidation/pneumomediastinum

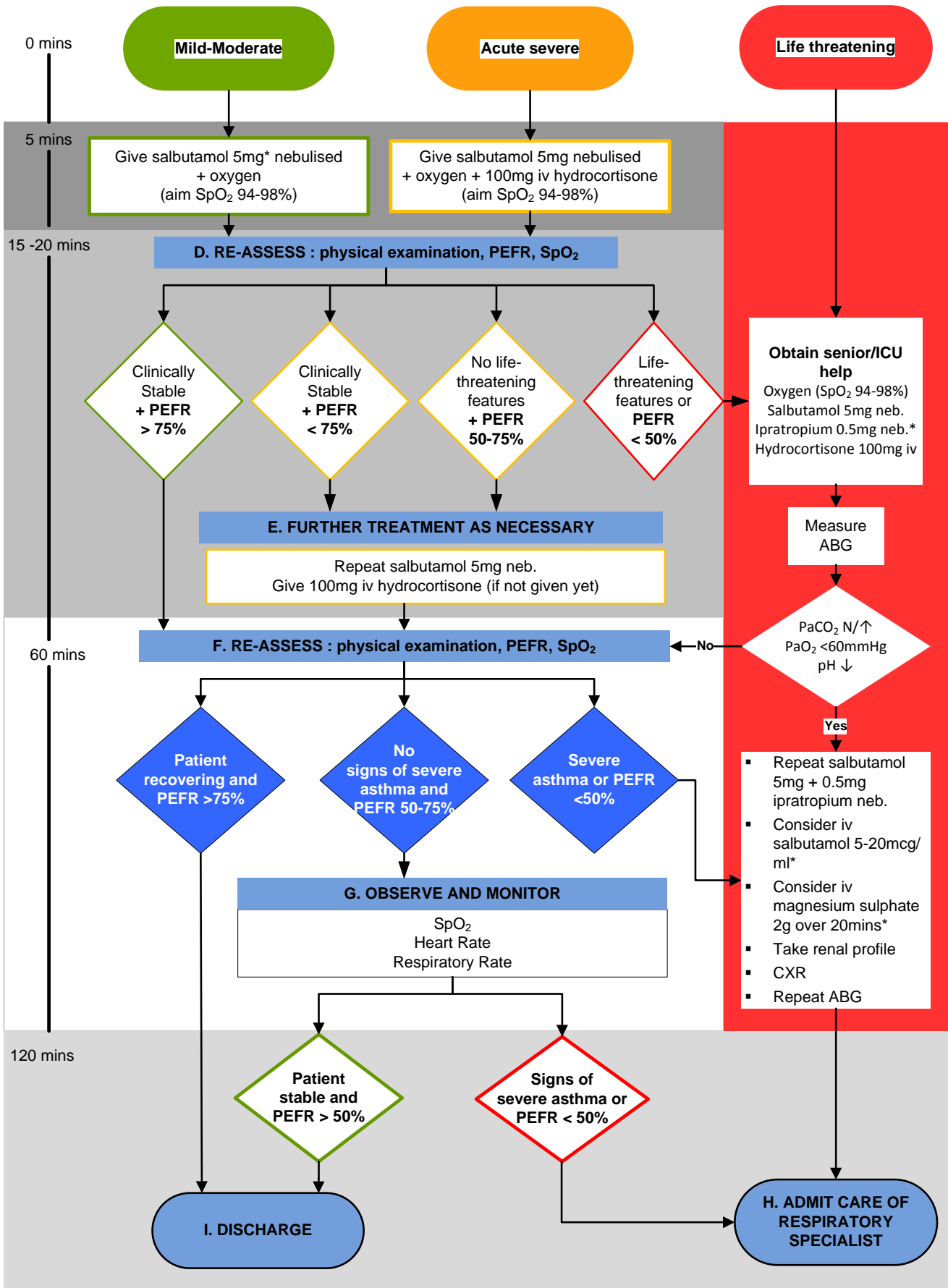
ECG if: > 50 years old or Co-existent heart disease or Co-existent COPD

ABG if: Severe asthma

PEFR must be expressed as % predicted - refer to appendix 1 on page 5



C. INITIATE TREATMENT ACCORDING TO SEVERITY



*for reconstitution of highlighted drugs, please refer to Annex



Lower threshold for admission if:

Persistent symptoms
 Afternoon or evening attack
 Recent nocturnal symptoms
 Recent hospital admission
 Concerns about compliance

Previous severe/near fatal attacks or brittle asthma
 Exacerbation despite adequate corticosteroid dose
 Psychological problems
 Physical disability or learning difficulties
 Social problems/Unreliable patient

ADMISSION PLAN

Admit to observation unit those patients who are predicted to be discharged within 24 hours

Medical Ward

Management plan

- CXR
- Oxygen to maintain SpO₂ 94-98%
- Prednisolone 40-50mg po daily
 OR iv HC 100mg 8 hourly
- Nebulised salbutamol 4-6 hourly
 and ipratropium bromide 4-6 hourly
- Monitor PEFr, SpO₂
- Consider antibiotics if consolidation suspected

Intensive Care Unit

Clinical indications for ITU

- Deteriorating PEFr
- Exhaustion or altered consciousness
- Silent chest
- Poor respiratory effort or respiratory arrest
- Worsening or persistent hypoxia pO₂ <60mmHg
- Worsening/persisting hypercapnoea: pCO₂ >55mmHg
- Severe respiratory acidosis pH <7.2
- Consider NIPPV/mechanical ventilation

A&E DISCHARGE PLAN

Medication

1. Start or increase dose of inhaled corticosteroid
2. Continue inhaled salbutamol every 1-2hours as needed (seek medical advice if necessary)
3. Consider prednisolone 40mg daily for at least 5 days or until early medical review

Education

4. Inhaler technique
5. Education and compliance
6. Monitor asthma control
7. Written action plan
8. Smoking cessation
9. Avoid possible triggers

Follow-up

10. GP review within 48hours
11. Refer to asthma clinic

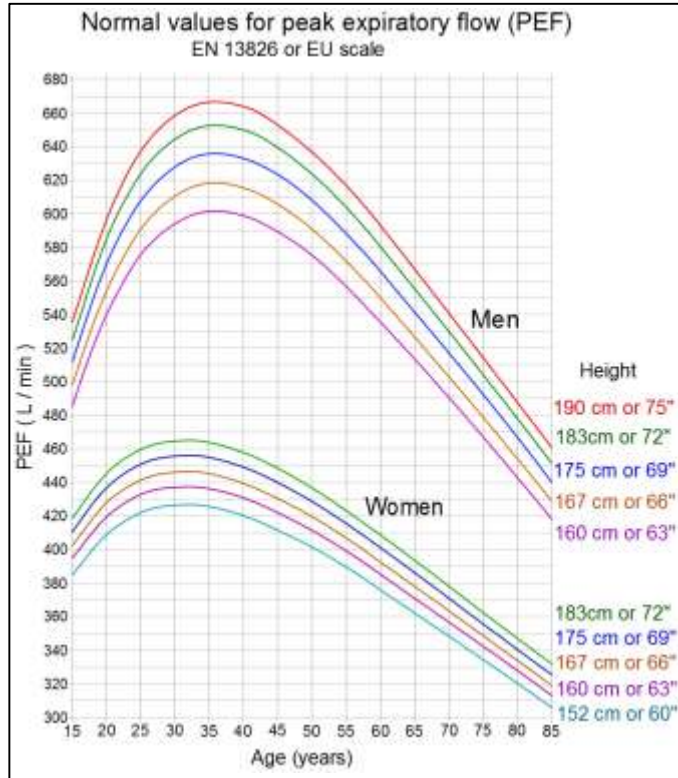
ADDITIONAL TREATMENT NOTES

Indications

| | |
|--------------------------------|---|
| Antibiotics | Symptoms or signs of infection. Should not be routinely prescribed |
| S.c. or i.m. adrenaline | Acute treatment of anaphylaxis and angioedema |
| I.v. salbutamol | Refractory life-threatening asthma |
| NIPPV | Selected patients with acute asthma and respiratory failure only in ICU |



Appendix 1. Calculating % predicted PEFR



OR

<http://www.mdcalc.com/estimatedexpected-peak-expiratory-flow-peak-flow/>

OR

$$\text{PEFR (L/min)} = [\text{Height (cm)} - 80] \times 5 \text{ (approximation)}$$

Appendix 2. PEFR Monitoring Chart

| Date | Time | PEFR reading (actual) | % predicted PEFR |
|------|------|-----------------------|------------------|
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

