

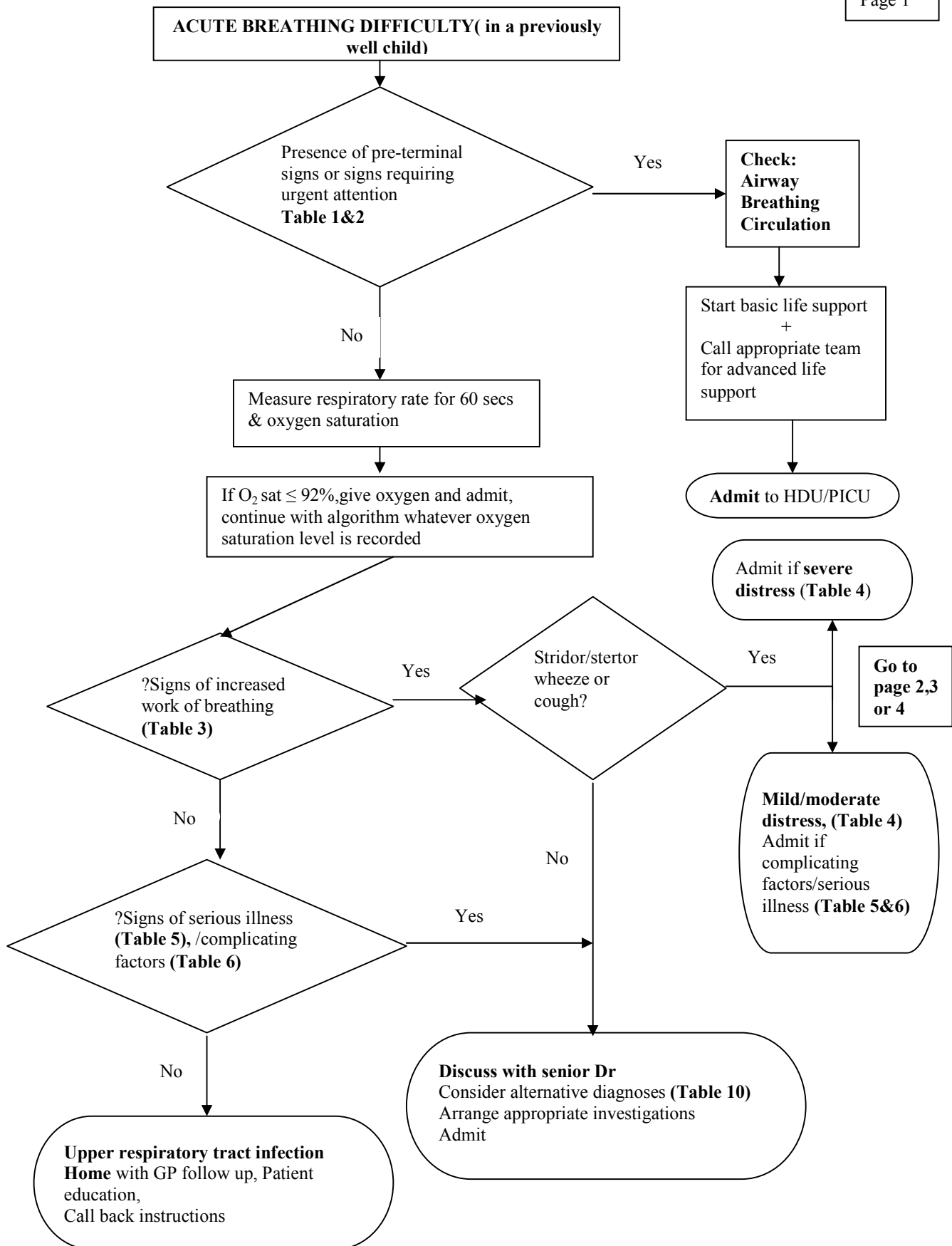
Algorithm for the management of children with acute breathing difficulty

This algorithm must be used in sequence starting with page 1 and finishing with page 5.

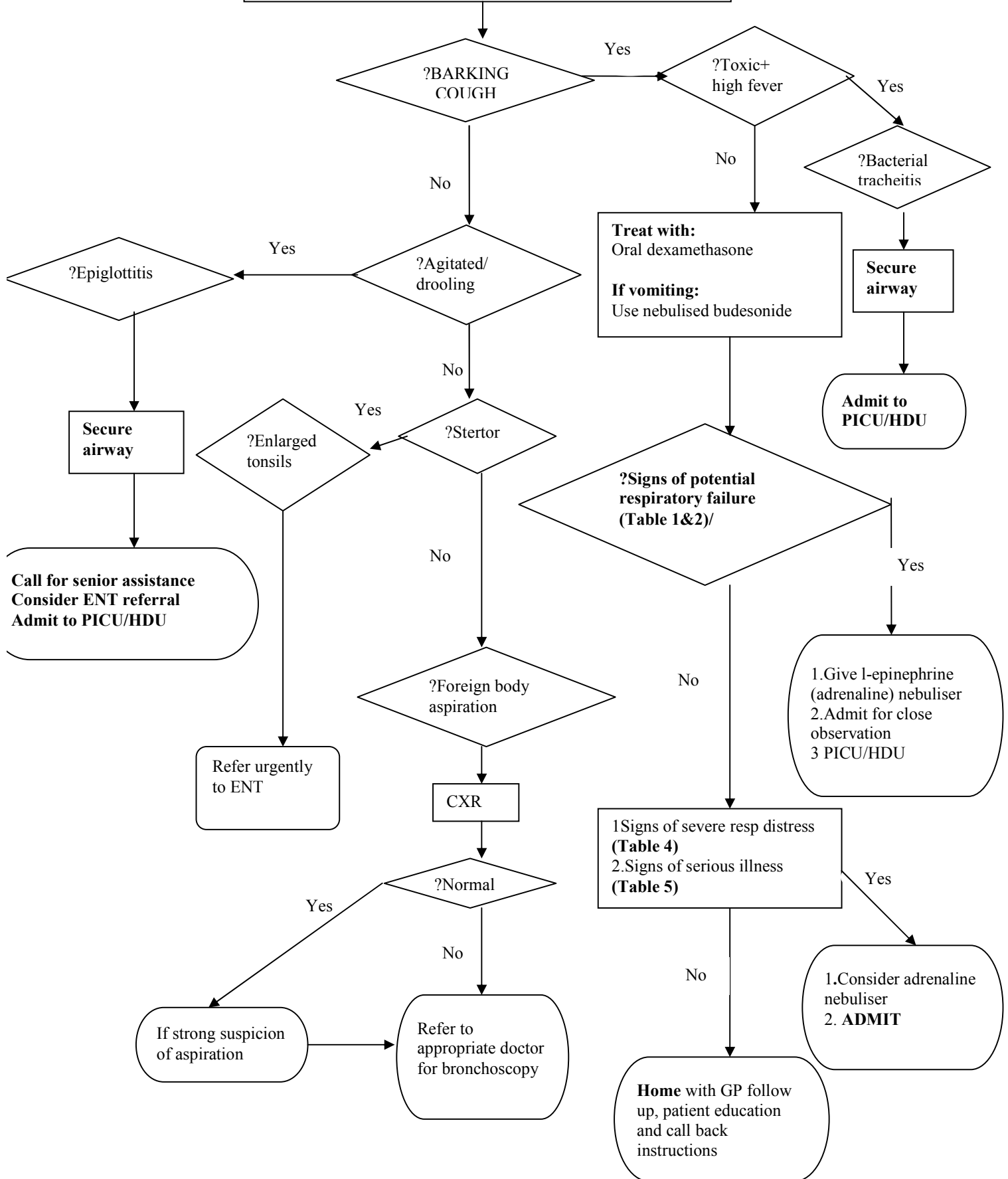
A glossary of terms and abbreviations has been provided.

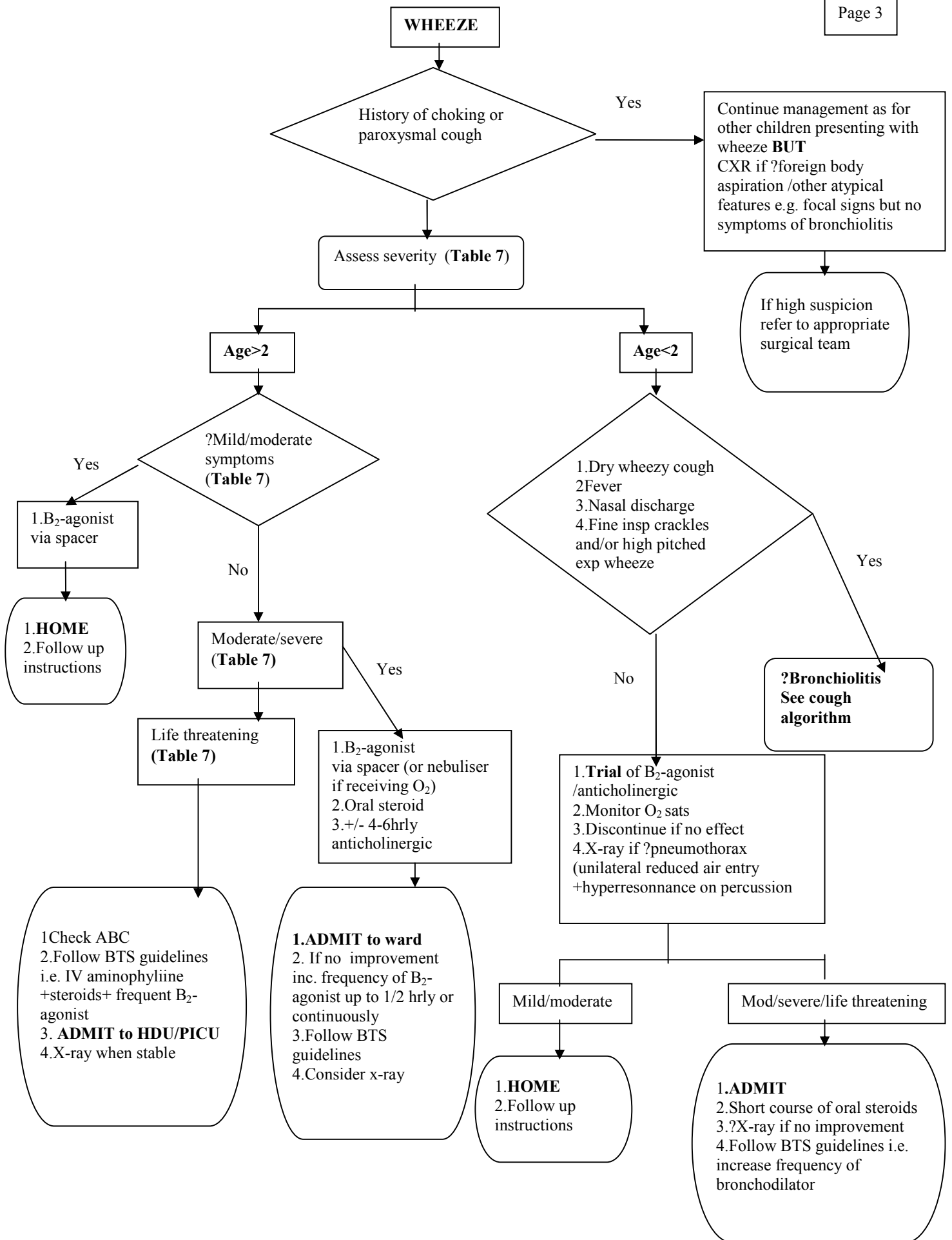
The relevant tables accompany the guideline.

Where drugs are mentioned we have chosen to follow 'medicines for children' until further evidence is available.



STRIDOR (limited airflow at larynx or trachea) or STERTOR (noise due to obstruction at pharyngeal level)





COUGH

If accompanied by wheeze or stridor see appropriate algorithm

? Paroxysmal cough or high suspicion of

Yes

CXR

? Referral to appropriate team for bronchoscopy

No

1. Dry wheezy cough
2. Fever
3. Nasal discharge
4. Fine insp crackles and/or high-pitched exp wheeze

Yes

Bronchiolitis

1. Trial of bronchodilator
2. Stop if no clinical improvement
3. Monitor O₂ sat
4. **No steroids**
5. **No routine blood tests/x-ray**

No

Combination of cough +breathing difficulty and one or more of:
1. Fever 2. High resp rate
3. Grunting
4. Chest in-drawing

Yes

Pneumonia

Mild/moderate distress (Table 4)

Severe distress (Table 4)

1. X-ray child under 2 months/ if no response to antibiotics / recurrent pneumonia
2. No routine blood tests
3. Oral antibiotics if clinically suspected
4. **HOME** with follow up instructions

1. CXR
2. Oral/iv antibiotics according to local protocol
3. FBC& B.culture if requires IV antibiotics (Table 9)
4. No routine blood tests if on oral rx
5. **ADMIT**

No

Re-assess child

Yes

1. Discuss with senior clinician
2. Consider trial of nebulised adrenaline
3. **Admit** for close observation e.g. HDU/PICU

No

Admit if:
1. signs of serious illness (Table 5)
2. Complicating factors (Table 6)
3. Increased risk of serious disease (Table 8)

? Severe distress (Table 4)

Tables included in the algorithm

Table 1 Pre-terminal signs

Exhaustion
Bradycardia
Silent chest
Significant apnoea

Table 2 Signs of severely ill child requiring urgent attention

Inappropriate drowsiness (difficult to rouse)
Agitation
Cyanosis in air

Table 3 Signs of increased work of breathing

Increased respiratory rate
Chest in-drawing (recession)
Nasal flaring
Tracheal tug
Use of accessory muscles
grunting

Table 4 Assessment of severity of breathing difficulty adapted from WHO management of acute respiratory infections in children. World Health Organisation, Geneva, 1995

Assessment of severity(breathing difficulty)			
	Mild	Moderate	Severe
Oxygen saturation in air	>95%	92-95%	<92%
Chest wall in-drawing	none/mild	moderate	severe
Nasal flaring	absent	may be present	present
grunting	absent	absent	present
Apnoea/pausing	none	absent	present
Feeding history	normal	Approximately half of normal intake	Less than half normal intake
Behavior	normal	irritable	Lethargic Unresponsive Flaccid Decreased level of consciousness Inconsolable

Table 5 Symptoms of Serious Illness (adapted from Viral Upper Respiratory Tract Guideline by Institute for Clinical Systems Improvement and the WHO recommendations on the management of children with cough or breathing difficulty)

< 3 months	3 months -3 years	4 years-adult
Responsiveness and activity <ul style="list-style-type: none"> • flaccid • cannot awaken or keep awake • weak cry or weak suck • inconsolable • refuse feedings 	Responsiveness and activity <ul style="list-style-type: none"> • unresponsive • cannot awaken or keep awake • markedly decreased activity • inconsolable • weak suck or weak cry(if infant) • refuses feeding 	Responsiveness and activity <ul style="list-style-type: none"> • decreased level of consciousness • markedly decreased activity • cannot awaken or keep awake
Dehydration and vomiting <ul style="list-style-type: none"> • reduced wet nappies > 8 hrs 	Dehydration and vomiting <ul style="list-style-type: none"> • no urine> 6-8 hrs if < 1yr • no urine> 12 hrs if > 1yr 	Dehydration and vomiting <ul style="list-style-type: none"> • no urine> 12 hrs
	Meningeal signs <ul style="list-style-type: none"> • stiff neck • persistent vomiting 	Meningeal signs <ul style="list-style-type: none"> • stiff neck • persistent vomiting • severe headache
Other <ul style="list-style-type: none"> • petechial and purpuric rash • convulsions • very high fever • hypothermia • capillary refill <3 sec 	Other <ul style="list-style-type: none"> • petechial or purpuric rash • convulsions • very high fever unresponsive to treatment • capillary refill < 3sec 	Other <ul style="list-style-type: none"> • decreased urination with decreased intake • petechial or purpuric rash • convulsions • very high fever unresponsive to treatment • capillary refill > 3 sec

Table 6 Factors contributing to the clinicians decision regarding admission or discharge

Complicating Factors
Co-morbidity e. g prematurity, congenital heart disease, any chronic lung disease, neurological disorder
Social problems e. g previous non-accidental injury, ill parents, parents having difficulty coping
Infants younger than 2 months of age

Table7 Severity of Asthma, taken from BTS

Table of Severity of Asthma Based on BTS Guidelines		
Age	Under 5 years	Over 5 years
Mild to Moderate	Wheeze and cough with tightness and mild dyspnoea, no distress, no speech or feeding difficulty Mild respiratory distress Respiratory rate < 50 Pulse < 140 bpm Saturations > 92% in air	Wheeze and cough with tightness Able to talk PEFR > 50% predicted height Pulse < 120 Saturations > 92% in air
Moderate to Severe	Too breathless to talk Too breathless to feed Respiratory rate > 50/min Pulse > 140/min Use of accessory muscles	Too breathless to talk Too breathless to feed Respiratory rate > 40 Pulse > 120/min PEFR < 50% predicted height
Life Threatening	Cyanosis Silent chest Poor respiratory effort Fatigue or exhaustion Agitation or reduced level of consciousness	Cyanosis Silent chest Poor respiratory effort Fatigue or exhaustion PEFR < 33% predicted height Agitation or reduced level of consciousness