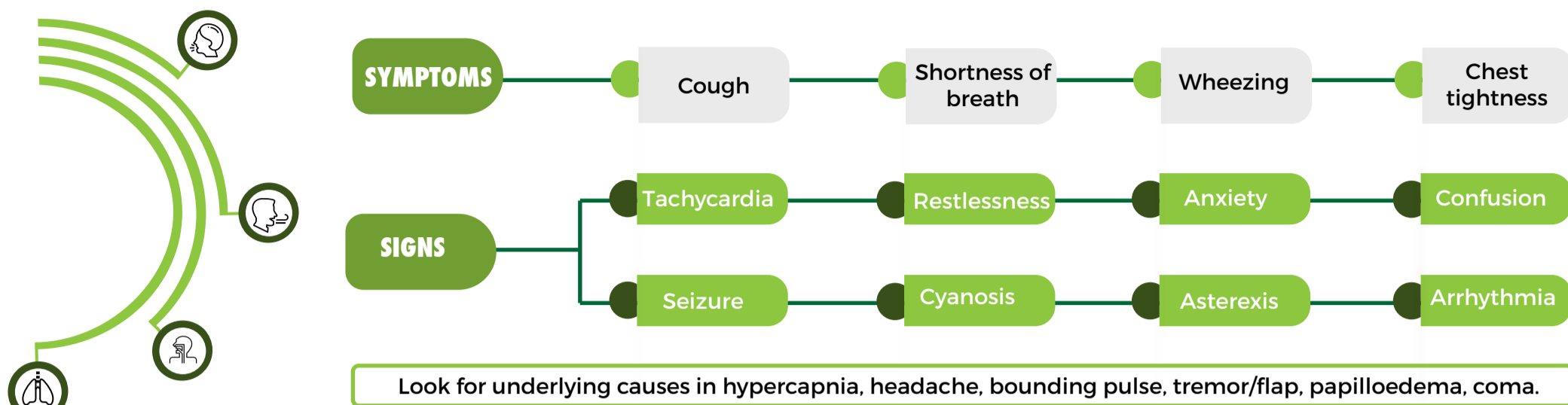




Standard Treatment Workflow (STW) for the Management of RESPIRATORY FAILURE

ICD 10 : J96.0



HYPOXIA (SPO₂ <90%)

HEART FAILURE

SYMPTOMS	SIGNS
<ul style="list-style-type: none"> Dyspnea or exertion or rest Chest Pain Wheezing Fatigue 	<ul style="list-style-type: none"> Tachycardia Pulsus Alterans Weak Rapid Thready Pulse Pink Frothy Sputum Cyanosis Pallor Distended Neck Veins

PNEUMONIA/ LRTI

SYMPTOMS	SIGNS
<ul style="list-style-type: none"> Cough with or without Sputum Chest Pain Fever with Chills, Fatigue, Malaise 	<ul style="list-style-type: none"> Tachypnea Tachycardia Crackles and Rhonchi Hypoxemia Pleuritic Chest Pain

PULMONARY EMBOLISM

SYMPTOMS	SIGNS
<ul style="list-style-type: none"> Sudden Shortness of Breath Chest Pain Calf Pain & or Swelling Hemoptysis 	<ul style="list-style-type: none"> Syncope Arrhythmia Tachycardia

AIRWAY DISEASE

ACUTE ASTHMA

SYMPTOMS	SIGNS
<ul style="list-style-type: none"> Wheeze Shortness of Breath Chest Tightness Cough 	<ul style="list-style-type: none"> Tachypnea Tachycardia Fall in SPO₂ Use of Accessory Muscle

AE OF COPD

SYMPTOMS	SIGNS
<ul style="list-style-type: none"> Worsening of Dyspnea Increase in Sputum Production Increased Cough 	<ul style="list-style-type: none"> Tachypnea Hypoxemia Hypercarbia Confusion Drowsy Peripheral Edema

BRONCHIOLITIS

SYMPTOMS	SIGNS
<ul style="list-style-type: none"> Cough Shortness of Breath Wheezing 	<ul style="list-style-type: none"> Cyanosis Nasal Flares Tachypnea Paradoxical Breathing (children) Crackles and or Rattling sounds in Lung

INVESTIGATIONS

ABC, CRP, FBC, U&E

Chest Xray

Sputum culture, Blood culture (if febrile)

Spirometry(COPD, Neuromuscular disease)

TREATMENT

DIAGNOSIS	Heart failure	Acute Severe Asthma	AE COPD	ARI	Pneumonia LRTI	Pulmonary embolism
OXYGEN	Start oxygen therapy at SpO ₂ < 90% Monitor SpO ₂ during oxygen therapy to titrate flow rate: target SpO ₂ < 96% Oxygen delivery usign Nasal cannulae/ Simple face mask/ Venturi mask/ Non re-breathing mask (Note: for patients with AECOPD, keep lower target SpO ₂ = 88-92%)					
BRONCHODILATORS	SOS	SABA ± SAMA (Salbutamol ± Ipratropium neb q20 min X 1 hr then prn)	SABA + SAMA (Salbutamol neb hourly + Ipratropium neb 4 hourly)	SABA + SAMA	SOS	SOS
DIURETICS	Yes (IV Furosemide 40 mg or Torsemide 20 mg)	SOS	SOS	SOS	SOS	SOS
ANTIBIOTICS	---	---	No risk factor Pseudomonas: Ceftriaxone or levofloxacin or moxifloxacin Pseudomonas risk factor: levofloxacin or piperacillin tazobactam or ceftazidime or cefepime Influenza suspect: Oseltamivir	---	Mild/Mod cases: Amoxicillin PO/IV or Ceftriaxone IV Severe Cases: Amoxicillin IV or Ceftriaxone IV Atypical pneumonia: Azithromycin IV/PO or Doxycycline IV/PO	---
STEROIDS	---	Yes (Methylprednisolone IV 40 to 60 mg or Prednisolone PO 60 mg)	Yes (Methylprednisolone IV 60 to 125 mg IV q6-12 hourly)	Yes	Severe CAP (fiO ₂ > 0.5 AND pH < 7.3 OR lactate > 4 mmolL ⁻¹ OR CRP > 150 mgL ⁻¹); Methylprednisolone IV 0.5 mg/kg q12h	---
LMWH	Prophylactic, if indicated	Prophylactic, if indicated	Prophylactic, if indicated	Prophylactic, if indicated	Prophylactic, if indicated	If high suspicion with low risk of bleeding: UFH (if thrombolysis anticipated), OR LMWH
REFERRAL	No relief OR Need for mechanical ventilation OR life threatening features: Stabilize CAB, transfer to higher center					

ABBREVIATIONS

• LRTI : Lower Respiratory Tract Infection
• LMWH: Low Molecular Weight Heparin

• SABA : Short Acting Beta Agonist
• SAMA: Short Acting Muscarinic Antagonist

• CAP: Community Acquired Pneumonia
• UFH : Unfractionated Heparin

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit our web portal (stw.icmr.org.in) for more information.

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