STANDARD TREATMENT WORKFLOW (STW)

Respiratory Failure

Surinder Jindal[1], G.C. Khilnani[2], Ashutosh Aggarwal[3], Anant Mohan[4], Raj Kumar[5], Alok Nath[6], Dhruv Chaudhary[7], Uma Mohan[8], DJ Christopher[9], Deepak Talwar[10]

[1]Postgraduate Institute of Medical Education and Research, Chandigarh; [2]All India Institute of Medical Sciences. New Delhi; [3]Postgraduate Institute of Medical Education and Research, Chandigarh; [4]All India Institute of Medical Sciences. New Delhi; [5]Vallabhbhai Patel Chest Institute, New Delhi; [6]Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow; [7]Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak; [8]St John's Medical College, Bengalluru; [9]Christian Medical College Vellore; [10]Metro Hospital, Noida

CORRESPONDING AUTHOR

Dr Surinder Jindal, Postgraduate Institute of Medical Education and Research, Chandigarh

Email: dr.skjindal@gmail.com

CITATION

Jindal S, Khilnani GC, Aggarwal A, Mohan A, Kumar R, Nath A, Chaudhary D, Mohan U, Christopher DJ, Talwar D. Respiratory Failure. Journal of the Epidemiology Foundation of India. 2024;2(1Suppl):S173-S174. DOI: https://doi.org/10.56450/JEFI.2024.v2i1Suppl.087

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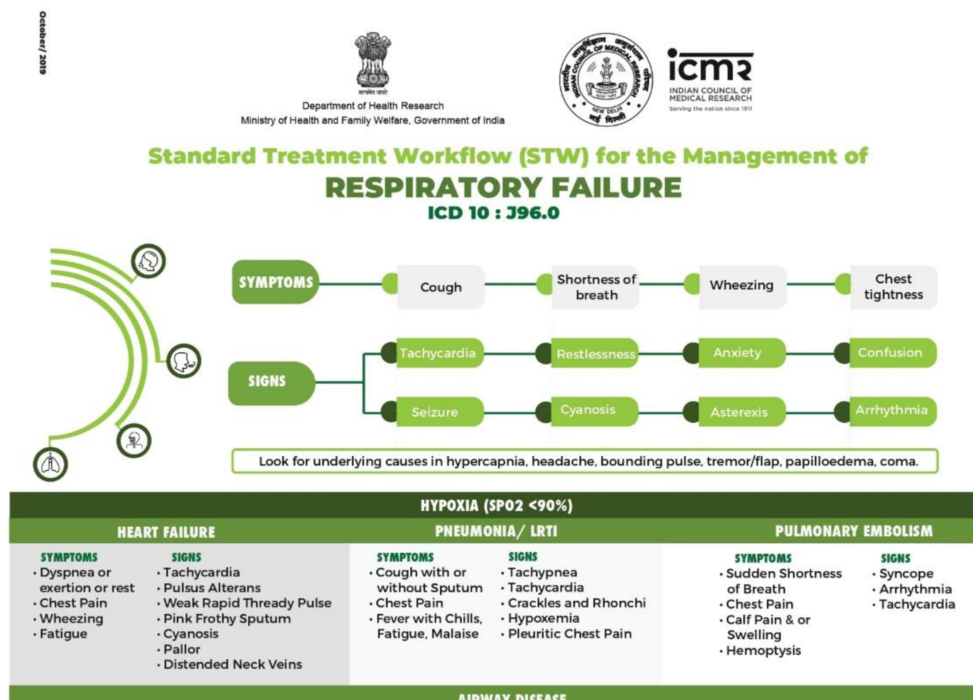

October/ 2019

Department of Health Research
Ministry of Health and Family Welfare, Government of India

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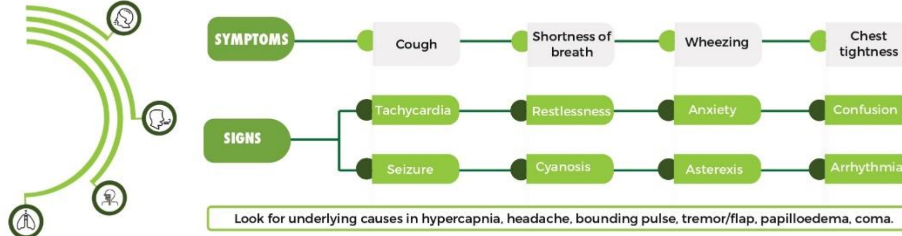
Standard Treatment Workflow (STW) for the Management of

RESPIRATORY FAILURE

ICD 10 : J96.0



HYPOXIA (SPO2 <90%)

HEART FAILURE

SYMPTOMS
- Dyspnea or exertion or rest
- Chest Pain
- Wheezing
- Fatigue

SIGNS
- Tachycardia
- Pulsus Alterans
- Weak Rapid Thready Pulse
- Pink Frothy Sputum
- Cyanosis
- Pallor
- Distended Neck Veins

PNEUMONIA/ LRTI

SYMPTOMS
- Cough with or without Sputum
- Chest Pain
- Fever with Chills, Fatigue, Malaise

SIGNS
- Tachypnea
- Tachycardia
- Crackles and Rhonchi
- Hypoxemia
- Pleuritic Chest Pain

PULMONARY EMBOLISM

SYMPTOMS
- Sudden Shortness of Breath
- Chest Pain
- Calf Pain & or Swelling
- Hemoptysis

SIGNS
- Syncope
- Arrhythmia
- Tachycardia

AIRWAY DISEASE

ACUTE ASTHMA

SYMPTOMS
- Wheeze
- Shortness of Breath
- Chest Tightness
- Cough

SIGNS
- Tachypnea
- Tachycardia
- Fall in SPO2
- Use of Accessory Muscle

AE OF COPD

SYMPTOMS
- Worsening of Dyspnea
- Increase in Sputum Production
- Increased Cough

SIGNS
- Tachypnea
- Hypoxemia
- Hypercarbia
- Confusion
- Drowsy
- Peripheral Edema

BRONCHIOLITIS

SYMPTOMS
- Cough
- Shortness of Breath
- Wheezing

SIGNS
- Cyanosis
- Nasal Flares
- Tachypnea
- Paradoxical Breathing (children)
- Crackles and or Rattling sounds in Lung

INVESTIGATIONS

ABG, 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 SpO2 < 90% Monitor SpO2 during oxygen therapy to titrate flow rate: target SpO2 < 96% Oxygen delivery usign Nasal cannulae/ Simple face mask/ Venturi mask/ Non re-breathing mask (Note: for patients with AECOPD, keep lower target SpO2 = 88-92%)					
BRONCHODILATORS	SOS	SABA ± SAMA (Salbutamol ± Ipratropium neb q20 min X 1 hr then prn)	SABA + SAMA (Salbutamol neb hourly + Ipratropi-um 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: Amoxycillin PO/ IV or Ceftriaxone IV Severe Cases: Amoxycillin IV or Ceftriaxone IV Atypical pneumonia: Azithromycin IV/ PO or Doxycycline IV/ PO	---
STEROIDS	---	Yes (Methylprednolone IV 40 to 60 mg or Prednisolone PO 60 mg)	Yes (Methylprednisolone IV 60 to 125 mg IV q6-12 hourly)	Yes	Severe CAP (fiO2 > 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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