## STANDARD TREATMENT WORKFLOW (STW)

# **Heart Failure: A Breathless Patient**

# S. K. Dwivedi<sup>1</sup>, George Joseph<sup>2</sup>, Aditya Kapoor<sup>3</sup>, G Karthikeyan<sup>4</sup>, Paul V George<sup>5</sup>, Santhosh Satheesh<sup>6</sup>, Saurabh Mehrotra<sup>7</sup>, Praveen Chandra<sup>8</sup>, Amit M Vora<sup>9</sup>, Calambur Narasinhan<sup>10</sup>, Paul V George<sup>11</sup>, Praveen Chandra<sup>12</sup>

<sup>1</sup>King George's Medical University, Lucknow;<sup>2</sup>Christian Medical College Vellore;<sup>3</sup>Sanjay Gandhi Postgraduate Institute of Medical Sciences, Lucknow;<sup>4</sup>All India Institute of Medical Sciences, New Delhi.;<sup>5</sup>Christian Medical College Vellore;<sup>6</sup>Jawaharlal Institute of Postgraduate Medical Education and Research, Pondycherry;<sup>7</sup>Postgraduate Institute of Medical Education and Research, Chandigarh;<sup>8</sup>Medanta, Gurgaon;<sup>9</sup>Reliance, Mumbai.;<sup>10</sup>CARE, Hyderabad;<sup>11</sup>Christian Medical College Vellore;<sup>12</sup>Medanta, Gurgaon

## **CORRESPONDING AUTHOR**

Dr SK Dwivedi, King George's Medical University, Lucknow

Email: drskdwivedi60@gmail.com

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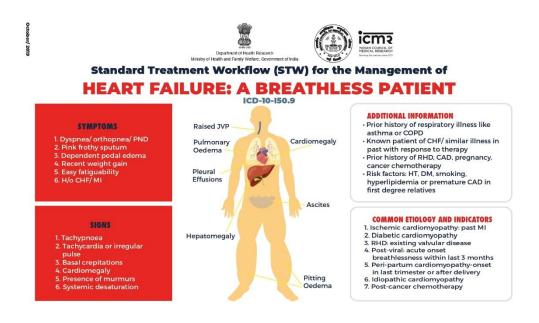
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icma Standard Treatment Workflow (STW) for the Management of **HEART FAILURE: A BREATHLESS PATIENT** ICD-10-150.9 ADDITIONAL INFORMATION SYMPTOMS Prior history of respiratory illness like asthma or COPD Raised JVP asthma or COPD

Known patient of CHF/ similar illness in past with response to therapy

Prior history of RHD, CAD, pregnancy, cancer chemotherapy

Risk factors: HT, DM, smoking, hyperlipidemia or premature CAD in first degree relatives Dyspnea/ orthopnea/ PND
 Pink frothy sputum
 Dependent pedal edema
 Recent weight gain Cardiomegaly Pleural Effusions Ascites COMMON ETIOLOGY AND INDICATORS COMMON ETIOLOGY AND INDICATORS.

Ischemic cardiomyopathy: past MI

2. Diabetic cardiomyopathy

3. RHD. existing valvular disease
4. Post-viral: acute onset
breathlessness within last 3 months
5. Peri-partum cardiomyopathy-onset
in last trimester or after delivery

6. Idiopathic cardiomyopathy

7. Post-cancer chemotherapy SIGNS Hepatomegaly 4. Cardiomegaly 5. Presence of murmurs 6. Systemic desaturatio Pitting Oedema Admit and stabilize Rule out respiratory cause: Breathlessness REFER TO Admit and stabilize Send for routine investigations
ECG: Rule out acute ST-Elevation MI
X-ray chest: Rule out respiratory etiology
Decongest with intravenous furosemide
OZ therapy if systemic saturation < 90%
Start enalagril and spironolactone orally
Consider carvedilol after decongestion with fever cough and expectoration or known patient of asthma or COPD Likely CHF: Decongest with furosemide REFER IF FOLLOWING: BP < 90 mmHg or > 200 mmHg Heart rate < 50/min or > 120/min Respiratory rate > 30/min or cyan KEEP WATCHING 1. Respiratory distress and oxygen saturation
2. BP and heart rate
3. Electrolytes and renal parameters REFER TO A 4 Admit and re-assess
Optimise therapy with furosemide/ enalapril/
spironolactone/ O2 and stabilize
Consider non-invasive ventilation if marked respiratory
distress and O2 saturation < 90%
- Echocardiography: confirm diagnosis of HFrEF: LV
ejection fraction < 55%
- Search for etiological diagnosis
- Consider carvedilol after decongestion
- Refer back to CHC/PHC after stabilization HOSPITAL MANAGEMENT AT TEXTIARY HOSPITAL

1. Re-assess and confirm diagnosis of HF

2. Categorize acute (<3 months) vs chronic (>3 months) and HFrEF
(EF 35%) vs HFpEF (EF 35-50%)

3. Optimize therapy with furosemide, enalapril, carvedilol,
spironolactone and O2

4. Consider ARNI and ivabradine

5. Pneumococcal and influenza vaccines

6. Investigate for etiology and manage

7. Consider non-pharmacological invasive therapy
a. ICD: In selected patients (Ref Arrhythmia STW)
b. BIV: Consider in NYHA class II/ III Symptomatic patient,
EF <35%, QRS >150msec in sinus rhythm with LBBB
morphology and optimal medical therapy of >3 months
8. Etiology based Interventions
a. PCI
b. Valve replacement REFER TO TERTIARY CARE IF REPER TO TERTIARY CARE IF
-CHF uncontrolled.
-Unstable hemodynamics
-Suspected ongoing ischemia
-Abnormal electrolytes
-Abnormal enal functions
-Structural heart disease
-Unclear etiology CONSIDER AT ALL LEVELS econdary CVD preventio with aspirin and statins Physical activity Weight Reduction Control of DM/ HTN/Lipids Smoking Cessation Salt restriction Moderation of alcohol INVESTIGATIONS: BASIC INVESTIGATIONS WHAT TO LOOK FOR IN WHAT TO LOOK FOR IN AN ECG? INVESTIGATIONS Hemogram, ESR
 Blood sugar
 Urine examination
 Urea/ Creatinine
 Sodium/ Potassium Pathological Q wave
 Conduction abnormalities, especially LBB
 Chamber enlargement
 Atrial fibrillation
 Note: || ST elevation present, manage as STEM| X RAY Cardiomegaly
 Pulmonary venous congestion
 Pneumonia or other lung pathology · Chest X-ray PA view COMMON DRUGS AND DOSAGE FOR CHF ENALAPRIL

- Dose 2.5 to 10 mg twice daily PO
- Start with low dose with BP > 100
mmHg, normal electrolyte and
creatinine less than 2.5 mg/dl
- Uptitrate dose 1-2 weekly till maximum
tolerable dose
- Keep watch on BP and electrolytes
before every increment and on
follow-up CARYEDIO.

- Dose 3.125 to 25 mg twice daily PO
- Start after decongestion with low dose
with BP > 100 mmHg and HR > 60/ min
- Uptitrate dose 1-2 weekly till maximum
tolerable dose FUROSEMIDE Dose 20-80 mg daily PO
- Intravenous 10-40 mg SOS in acute stage
- Change to oral when symptoms subside
- Monitor serum electrolytes, creatinine and uric acid on therapy Keep watch on BP, heart rate and recipitation of CHF symptoms
Increase diuretics and reduce carvedilol to manage reappearance of CHF SPIRONOLACTONE Dose 25-50 mg once daily PO
Keep watch on serum potassium and creatinine ry 2-4 weekly ★ KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES PCI: Percutaneous Coronary Intervention
CABG: Coronary Artery Bypass Graft
CVD: Cardiovascular Diseases

HFPEF: Heart Failure with reduced Ejection Fraction
HFPEF: Heart Failure with preserved Ejection Fraction
STEMI: ST elevation Myocardial Infarction ABBREVIATIONS **HFPEF:** Heart Failure with preserved Ejection Fraction **STEMI:** ST elevation Myocardial Infarction ICD: Implantable Cardioverter defibrillator
BiV: Bi-Ventricular Pacing **RHD:** Rheumatic Heart Disease LV: Left Ventricle PND: Paroxysmal Nocturnal Dyspnea COPD: Chronic Obstructive Pulmonary Disease CAD: Coronary Artery Disease REFERENCES

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