WHAT IS HEART FAILURE?

Accumulation of fluid throughout the entire body (R-Sided HF) and/or accumulation of fluid in the lungs (L-Sided HF). Causes a decrease in cardiac output, that is unable to meet the metabolic needs of the body.

WHAT'S HAPPENING?

Na+ & H2O retention increases workload of the heart.

Untreated Heart continues to become weaker & enlarged

RESULTS IN Remodeling and now a **PERMANENTLY DYSFUNCTIONAL HEART**

FEW FACTS

Most common nonfatal consequence of CV disorders

Heart Failure is **NOT** a disease itself. Instead a group of clinical syndromes characterized by:

Volume Overload

Inadequate tissue perfusion

Poor Exercise Intolerance

LV **usually** affected 1st

Chronic HF may have both Left & Right Failure

DIAGNOSIS

Signs & Symptoms determine which ventricle is being affected leading to the diagnosis of Left or Right Heart Failure

LEFT-SIDED S/S - Pulmonary

SOB while sleeping	Poss. apnea
Dyspnea	Impaired gas exchange
Orthopnea	Trouble breathing while lying down
Inspiratory Crackles Or **Expiratory Wheezes**	Pulmonary edema
Constant Cough	Frothy, blood-tinged sputum

RIGHT-SIDED S/S - Venous

Swelling of legs & hands	
Weight gain (2-3lbs/day)	Fluid Retention
Pitting Edema	
JVD	Estimates Central venous pressure = **RV Failure**
Ascites	Increased abdominal girth
Enlarged liver (Hepatomegaly)	Fluid building up - may cause Nausea, anorexia, & bloating

ASSESSMENT: NONMODIFIABLE RISK FACTORS

Age - Elderly often need hospitalization

Sex - Women tend to have condition later in life, survive longer w/ HF

ASSESSMENT: MODIFIABLE RISKS

Smoking

ETOH & Drug Use

Obesity

T2DM

HTN

CAD

HEALTH HISTORY - ASK

Signs & Symptoms of dyspnea, SOB, fatigue, & edema?

Have you been experiencing unusual fatigue?

Do you have SOB at rest, on exertion?

Address the patient's emotional well-being *(Chronic HF is linked to depression & anxi)*

Do you have sleep disturbances? Do you ever wake up suddenly feeling SOB?

How many pillows do you sleep with?

Explore patient's understanding of HF, self-management strategies (diet, exercise, smoking cessation)

Have you ever had a MI?

Have you had recent open heart surgery?

Do you have HTN?

Have you every been diagnosed with a dysrhythmia?

Do you take any medications *prescribed & OTC*?

Do you drink ETOH?

Do you smoke?

Do you use illicit drugs?

Do you exercise?

What is your diet like? Are you on any type of restrictions?

Have you noticed acute weight gain? *2-3 lbs/day*

PHYSICAL EXAM

SOB	Most common
Mental Confusion, Anxiety, Irritability	Hypoxia
Pale, cyanotic, cool, clammy skin	Poor Perfusion
Peripheral edema	Ankles, feet, sacral area, or throughout body
Inspiratory Crackles *OR* **Expiratory Wheezes**	Left-Sided Failure
JVD	Right-Sided Failure
Ascites	Passive liver congestion *R-Side Failure*
Tachypnea	Body compensating for hypoxia & decreased CO
Tachycardia	Body compensating for hypoxia & decreased CO
S3 or S4 Heart Sound Ventricular Gallop	Increased resistance to ventricular filling after atrial contraction & early rapid ventricular filling

NURSING DIAGNOSIS

Impaired cardiac output	
R/T	Impaired myocardial function
AEB	Fatigue, Dyspnea, Tachycardia, and/or BP
Risk for ineffective health maintenance	
R/T	Lack of knowledge regarding diagnostic & lab procedures necessary for monitoring heart failure status
Impaired gas exchange	
R/T	Fluid overload & pulmonary congestion
AEB	Orthopnea, nocturnal dyspnea & hypoxemia
Excess fluid volume	
R/T	Compromised heart function & renal perfusion
AEB	Peripheral edema, ascites, & weight gain
Acute Pain	
R/T	Decreased myocardial oxygenation
AEB	Reports of chest pain or discomfort exacerbated by physical exertion or stress

NURSING DIAGNOSIS (cont)

Ineffective tissue perfusion	(cardiopulmonary)
R/T	Decreased cardiac output
AEB	Altered mental status, cool & clammy skin, decreased urine output
Imbalanced nutrition: Less than body requirements	
R/T	Dietary restrictions and fluid management in heart failure
AEB	Confusion about low-sodium diet recommendations & fluid intake limits
Activity intolerance	
R/T	Imbalance between oxygen supply & demand
AEB	Reports of fatigue, dyspnea on exertion & decreased endurance
Anxiety	
R/T	Changes in health status & uncertainty about the future due to their condition, noticeable restlessness, frequent questions about their prognosis, and expressed concerns regarding the effects of their illness on family roles and responsibilities

INTERVENTIONS R/T NURSING DIAGNOSIS

Decrease in Cardiac Output

CAUSE: Heart muscle weakens or becomes stiff, impairing it's ability to contract & relax properly.

Prevent the progression of the disease & decrease the risk of complications

GOAL: Early recognition & management of decreased CO improves patient outcomes & quality of life.

INTERVENTIONS	RATIONAL
1. Auscultate apical pulse & assess HR	- Body's 1st defense to compensate for reduced CO
Objective Tachycardia = early sign of HF	Persistent tachycardia is harmful & may worsen HF
2. Obtain a comprehensive health history focusing on HF symptoms & self-management strategies	Understanding patient's health history helps ID S/S of worsening HF

INTERVENTIONS R/T NURSING DIAGNOSIS (cont)

	Also IDs patient's understanding and adherence to self-manager
3. Note heart sounds	An extra heart sound is caused by a large volume of fluid enterin beginning of diastole
Objective S3 (ventricular gallop)	**Indicates** worsening HF
4. Assess rhythm & document dysrhythmias	A-Fib is common & promotes thrombus formation within the atria
Subjective "Patient reports fast HR"	**Occurrence** increases with HF severity
5. Assess for palpitations or fast HR	Palpitations occur due to dysrhythmias.
Subjective "Patient reports fast HR, ""flutter" feeling"	Fast HR may be compensation mechanism trying to get more blo the heart
6. Palpate peripheral pulses	Decreased CO may diminish radial, popliteal, dorsalis pedis, and
Objective Decreased pulse volume, cool, pale or cyanotic skin = **decreased CO**	**Evaluation** helps determine adequacy of peripheral perfusion
7. Monitor BP	Chronic HF, BP is used as a parameter to determine the adequa dosage of meds (ACEi)
8. Inspect the skin for mottling	R/T decreased perfusion to the skin
Objectiveblue/grey skin coloring	In chronic HF increased capillary oxygen extraction, skin appears
9. Inspect skin for pallor or cyanosis	**R/T** to diminished perfusion
Objective Cool, clammy skin	
10. Monitor urine output, noting decreasing output & concentrated urine	**R/T** decreased renal perfusion
Subjective Oliguria	Fluid shifts into tissues during the day
Subjective Nocturia	Increased renal perfusion during supine position
11. Examine LE for edema and rate it's severity	**Helps** evaluate fluid status & guide diuretic therapy & fluid manag
Objective Pitting Edema	
12. Assess the abdomen for tenderness, hepatomegaly, and ascites	**Provides** info on potential complications, guides interventions & T
13. Assess jugular vein distention	**Estimates** central venous pressure & IDs RV failure.

INTERVENTIONS R/T NURSING DIAGNOSIS (cont)	
Objective Distention greater than 4 cm	
14. Monitor Labs & Diagnostics	**Goal** in diagnosis is to find the underlying cause of HF & patient's response to Tx
15. Monitor O2 sats & ABGs	**Useful** in establishing Dx & severity of HF
	Provides info regarding the heart's ability to perfuse distal tissues w/ O2 blood
16. Give O2 as indicated by the patient's symptoms, O2 sats, & ABGs	**Increases** O2 availability to the myocardium
	Helps relieve symptoms of hypoxemia, ischemia, & subsequent activity intolerance
17. Provide a restful environment	**Minimizing** controllable stressors & unnecessary disturbances reduces the cardiac workload
	Providing physical & emotional rest allows patient to conserve energy
18. Assist the patient into a High-Fowler's position	**Allows** better chest expansion = improved pulmonary capacity
	Reduced venous return to the heart
	Relieves pulmonary congestion
	Minimizes pressure on the diaphragm
19. Check for calf tenderness, diminished pedal pulses, swelling, local redness or pallor of extremity	**Prolonged** sedentary position increases the risk of thrombophlebitis, reduces CO, and increases venous pooling
20. Encourage activity as tolerated	**Chronic HF patient's should aim for 30 mins of physical activity daily
21. Monitor for S/S of:	
Fluid Imbalance	Fluid shifts & diuretics can cause excessive diuresis, leading to HYPOKALEMIA
Electrolyte Imbalances	S/S HYPOKALEMIA: VTach, Hypotension, Gen. weakness
	ACEi & ARBs can cause HYPERKALEMIA
22. Monitor Tele monitor & CXR	Can indicate underlying cause of HF
	CXR: May show enlarged heart & pulmonary congestion