

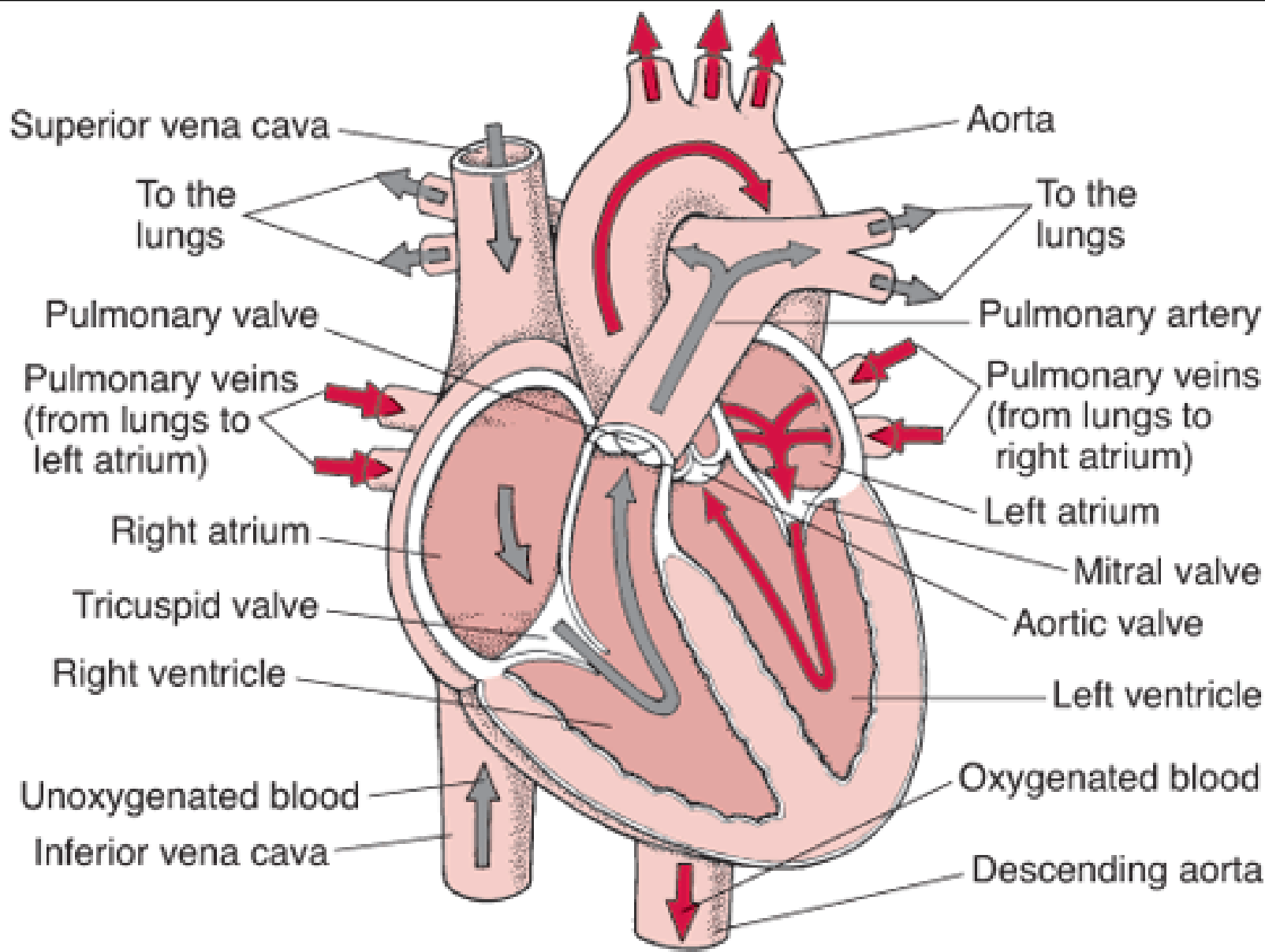


What You Should Know About CHF

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What is Congestive Heart Failure (CHF)?

- A progressive disease in which damage to the heart causes weakening of the cardiovascular system
- Occurs when blood backs up, or congests into the liver, abdomen or lungs
- Typically happens when the heart muscle is damaged, weakened, stiffened/enlarged



What is Congestive Heart Failure (CHF)?

- Often the end stage of many cardiovascular conditions
- Psychological and social impacts
- American Heart Association (AHA) reports nearly 5 million Americans have heart failure
- Half of those diagnosed die within five years
- No cure, meds and healthy lifestyle can help manage/maintain QOL

What is Congestive Heart Failure (CHF)?

- As people live longer, the occurrence of heart failure rises, as well as other conditions that complicate its treatment
- Even when symptoms are absent or controlled, impaired heart function implies a reduced duration of survival

What happens during CHF?

During heart failure, body attempts compensation for reduced blood flow by:

- **Enlarging heart chamber**
- **Developing more muscle mass**
- **Pumping faster**
- **Diverting blood**

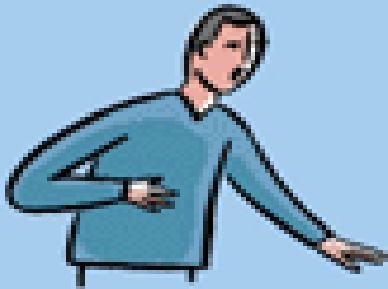
What happens during CHF?

- The heart's inability to pump blood to the muscles and organs isn't always apparent in early stages of heart failure
- Often becomes obvious during increases in physical activity
- In advanced heart failure, many tissues and organs may not receive the oxygen they require for functioning at rest

What happens during CHF?

- Occurs due to a decrease in blood flow
- Back up (congestion) of blood into the lungs, liver, abdomen, lower extremities
- May have shortness of breath (SOB) or weakness and not have fluid build up

Symptoms of CHF



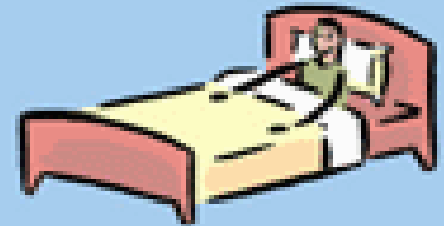
Shortness of breath



Swelling of feet & legs



Chronic lack of energy



Difficulty sleeping at night due to breathing problems



Swollen or tender abdomen with loss of appetite



Cough with frothy sputum



Increased urination at night



Confusion and/or impaired memory

Other Types of Heart Failure

- **Left Sided:** *The left side of heart brings oxygen rich blood from lungs through left atrium to left ventricle, then out into body. When left side heart damaged or can't pump as well, has to work harder. This causes fluid to build up, especially in lungs. That's why SOB is one of most common symptoms of heart failure. With left-sided HF, may have **systolic failure (when heart does not pump out blood as should), or diastolic failure (when heart doesn't fill back up with blood.)***

Other Types of Heart Failure

- *Right Sided: The right side of heart usually becomes weaker in response to failure from the left side. The right side brings in circulated blood from body and sends to lungs for oxygen. As heart muscle loses strength, blood and fluid become backed up causing swelling and shortness of breath.*

Heart Failure Classifications

Class I -No limits to physical activity

Ordinary activity does not cause:

- fatigue
- palpitations
- dyspnea (SOB)



Heart Failure Classifications

**Class II -Slight limitation to physical activity
*Comfortable at rest, but ordinary physical activity results in:***

- fatigue
- palpitations
- dyspnea (SOB)



Heart Failure Classifications

Class III -Physical activity limited

Comfortable at rest, less than ordinary activity causes:

- fatigue
- palpitations
- dyspnea (SOB)



Heart Failure Classifications

Class IV- Unable to carry on any physical activity without discomfort

Symptoms of failure at rest

-if **any** physical activity is undertaken, discomfort increases



CHF Risk Factors

- **Coronary Artery Disease**
 - **High Blood Pressure**
 - **Faulty Heart Valves**
- **Damaged Heart Muscle**
- **History of Heart Attack**
- **Congenital Heart Defects**
 - **Smoking**
- **Poor Diet – Lack of Exercise**

Treatment for CHF

Treatment goals:

- **Address underlying causes**
- **Reduce and manage symptoms**
- **Improve health**

Treatment for CHF

May include the following:

- **Medications**
- **Inpatient treatment**
- **Surgery**
- **Heart transplant**
- **Implanted devices**
- **Lifestyle changes**

Treatment for CHF

Medications

Angiotensin converting enzyme (ACE Inhibitors)

- Widens/relaxes blood vessels to lower BP
- Reduces workload/strain on the heart
- Prevents undesirable increases in heart size
- Improves ***ejection fraction*** (measurement of percentage of blood leaving your heart each time it contracts)

Treatment for CHF

Medications: ACE Inhibitors Cont.

- *Potential side effects:* **cough, dizziness (vertigo), worsening of some types of kidney disease**
- *Examples:* **lisinopril (Prinivil), enalapril (Vasotec), captopril (Capoten)**

Treatment for CHF

Medications

Angiotensin II receptor blockers (ARBs): *alternative to ACE inhibitors if they are not tolerated*

- **Beta blockers:** *slow heart rate and reduce BP as well as limit or reverse some damage caused by heart failure.*
- **Aldosterone blockers:** *block effects of hormone aldosterone, which causes sodium and water retention that can contribute to heart failure.*

Treatment for CHF

Medications: ARBS Cont.

- *Potential side effects:* **fatigue, abdominal pain, edema, headache, dizziness**
- *Examples:* **valsartan (Diovan), candesartan (Atacand), losartan (Cozaar), irbesartan (Avapro)**

In 2015, a combination drug of an inhibitor and an ARB was approved for use. **Entresto (sacubitril/valsartan)** was shown to reduce hospitalizations and deaths.

Treatment for CHF

Medications

•Vasodilators

- Relaxes blood vessels and lowers the resistance against which the heart has to pump
- Increases blood supply and oxygen to heart
- *Potential side effects:* **low blood pressure (hypotension), dizziness, abnormally high heart rate (tachycardia), headache**
- *Examples:* **hydralazine(Apresoline), isosorbide dinitrate (Isordil), Nitrates**

Treatment for CHF

Medications

•Beta Blockers

- Block the heart cell response to catecholamines (norepinephrine, epinephrine) – compounds that cause the heart to work harder, increase blood pressure, and increase blood flow to muscles
- May reduce the energy needs of the heart
- Can reduce heart size and improve the function of the heart

Treatment for CHF

Medications

- **Beta Blockers Cont.**

- *Potential side effects:* **decreased ventricular function, slow heart rate, worsening of symptoms due to asthma**
- *Examples:* **Carvedilol (Coreg), Metoprolol (Toprol XL)**

Treatment for CHF

Medications

• Digitalis

- Increases strength of heart's contractions
- Reduces resistance in the blood vessels
- Decreases certain irregular heartbeats
- *Potential side effects: nausea, vomiting, and slow (bradycardia) or fast heart beat (tachycardia)*
- *Examples: digoxin (Lanoxin)*

Treatment for CHF

Medications

•Anticoagulants

- Prevent blood clots from forming in the heart chambers, veins, or arteries
- In small arteries such as the coronary arteries, anticoagulants may prevent clots from forming
- *Potential side effects:* **bleeding**
- *Examples:* **warfarin(Coumadin), rivaroxaban (Xarelto), dabigatran (Pradaxa), Heparin (various)**

Treatment for CHF

Medications

- **Cholesterol Lowering**
- A high level of cholesterol increases the chance of having a heart attack or stroke due to plaque buildup in arteries
- *Potential side effects:* **abnormal function of liver, muscle aches**
- *Examples:* **Atorvastatin (Lipitor), Simvastatin (Zocor), Rosuvastatin Calcium (Crestor), Pravastatin (Pravachol), Lovastatin (Mevacor, Altoprev)**

Treatment for CHF

Medications

- **Aldosterone Blockers**
- Aldosterone is a hormone released by the adrenal glands in response to a decrease in blood flow to the kidneys and other factors in heart failure
- *Potential side effects:* **fatigue, headache, low blood pressure, nausea**
- *Examples:* **spironolactone (Aldactone), eplerenone (Inspra)**

Treatment for CHF

Medications

- **Diuretics**
- Also known as “water pills”, help eliminate excess fluids from the body
- They cause the kidneys to make more urine and increase the body’s excretion of sodium, chloride, and potassium
- Can cause potassium and sodium levels to be depleted

Treatment for CHF

Medications

- **Diuretics: Cont.**
- Diuretics are used to relieve both pulmonary and peripheral edema
- Can also treat HTN since they dilate blood vessels
- *Potential side effects:* **dizziness, muscle cramps, increased levels of blood sugar, cholesterol & thirst**
- *Examples:* **Furosemide (Lasix), Bumetanide (Bumex), Hydrochlorothiazide (HCTZ)**

Treatment for CHF

- **Inpatient Treatment**
- In cases of advanced heart failure, hospitalization may be necessary for prescribed intravenous (IV medications) since some medications are not as effective when taken orally

Treatment for CHF: Surgery/Procedures

- 1. Coronary Artery Bypass Graft**
- 2. Valve Surgery**
- 3. Percutaneous Transluminal Coronary Angioplasty (PTCA)**
- 4. Left Ventricular Assist Device**

Treatment for CHF

Surgery/Procedures: Heart Transplantation

- In end stage heart failure, the best option may be replacing the heart
- Because of the shortage of donors, heart transplant recipients may wait months or years for a new heart

Treatment for CHF

Lifestyle Changes:

- Quit smoking
- Avoid alcohol
- Maintain healthy weight
- Participate in moderate exercise
- Reduce salt consumption
- Limit fluids

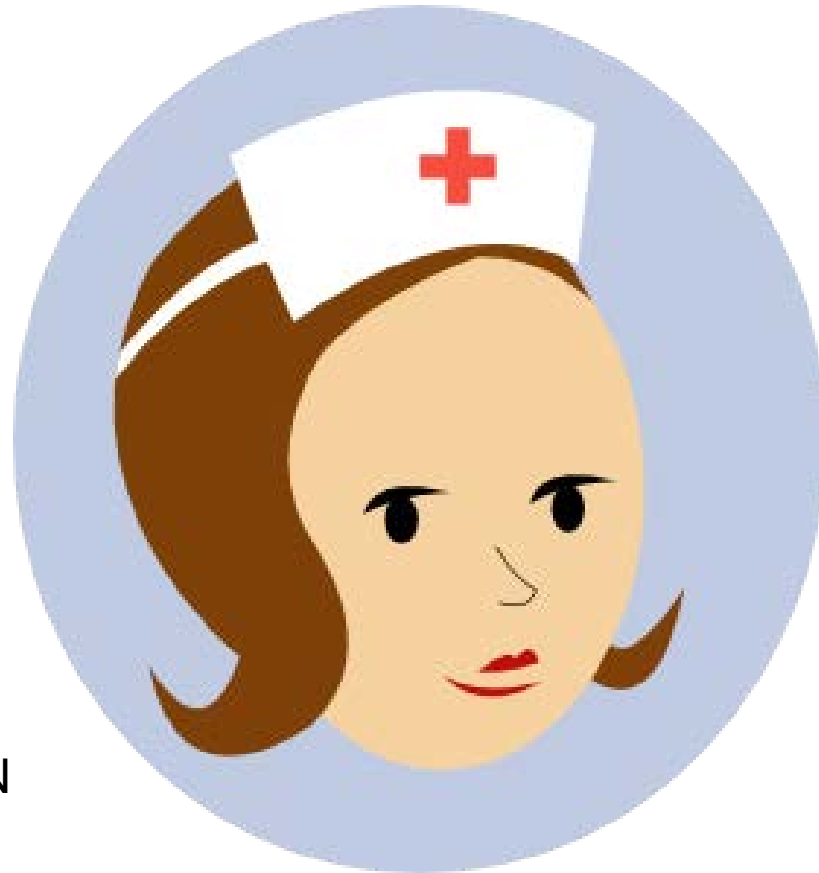
Treatment for CHF

Lifestyle Changes:

- Eat a heart-healthy diet
- Get adequate rest/sleep
- Control blood sugar (if you have diabetes)
- Control high blood pressure
- Check legs/ankles/feet for swelling daily
- Keep vaccinations current
- Reduce stress



Questions?



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