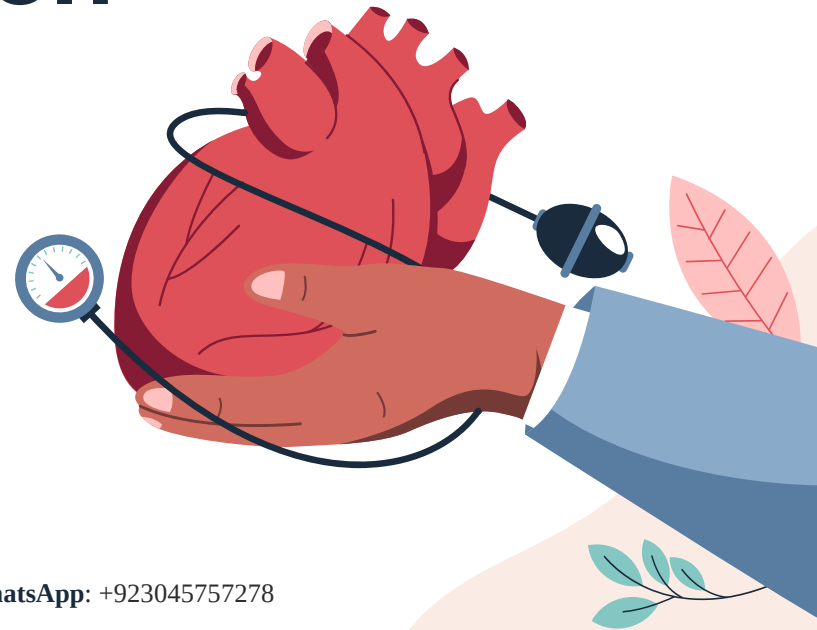
KINZA ASHRAF
DISSERTATION HELP

Cardiac Rehabilitation for Heart Failure

Name:



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Heart failure

- Heart failure occurs when the heart muscle doesn't pump blood as well as it should.
- Impairs blood pumping, causing fatigue & breathlessness.
- Caused by hypertension, obesity, arrhythmias, genetic factors.
- Impacts quality of life, healthcare costs.
- Manage by controlling weight, diet, exercise, stress, avoiding tobacco & alcohol.
- Early recognition, comprehensive management including medication, lifestyle changes are crucial.

Heart Anatomy and Function

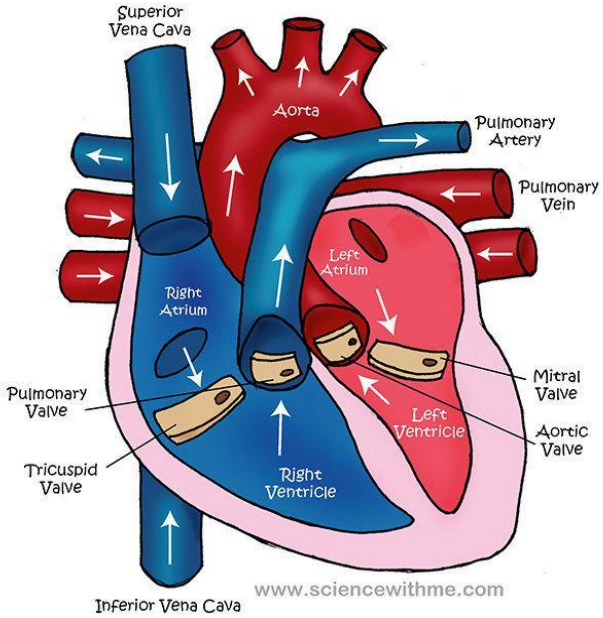
The heart, a fist-sized muscular organ behind the breastbone.

Four chambers: right/left atrium, right/left ventricle.

Right side: pumps oxygen-poor blood to lungs.

Left side: circulates oxygen-rich blood to body.

Valves ensure one-way blood flow.



Circulatory system

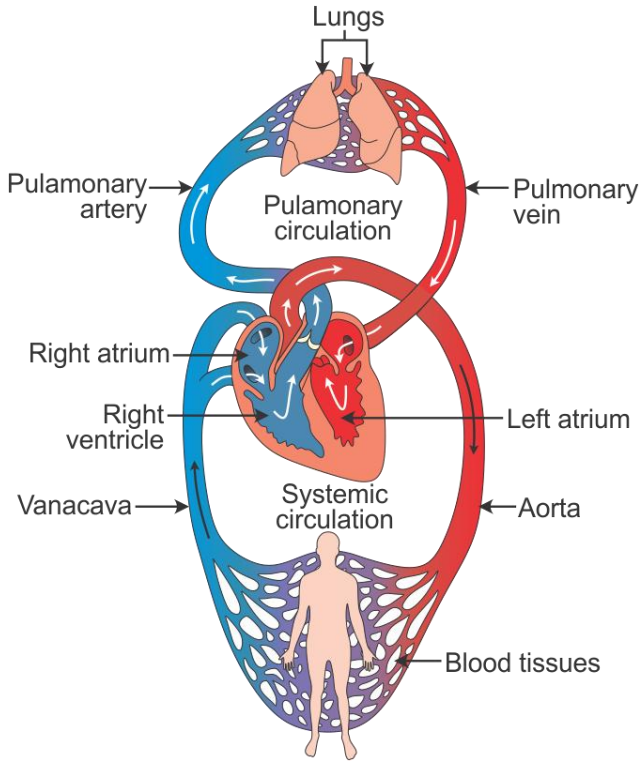
Circulatory system: heart, blood vessels, 5 liters of blood.

Transports oxygen, nutrients, removes waste.

Includes pulmonary (lungs) and systemic (body) circuits.

Blood vessels: arteries (away from heart), veins (to heart), capillaries (exchange point).

Maintaining circulatory health: exercise, diet, stress management.



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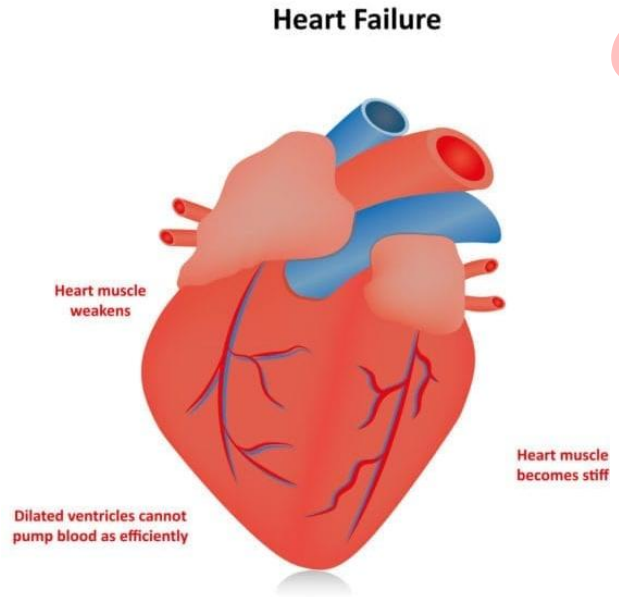
Changes in the heart's structure due to HF

Structural changes	•HF causes heart enlargement and increased muscle mass.
Temporary adaptations	•Heart pumps faster initially. Progression leads to fatigue, breathing issues.
Body response	•Narrow vessels, retain salt/water.
Types	•Hypertrophic, dilated, restrictive cardiomyopathy. Affects mainly left side, potentially both sides



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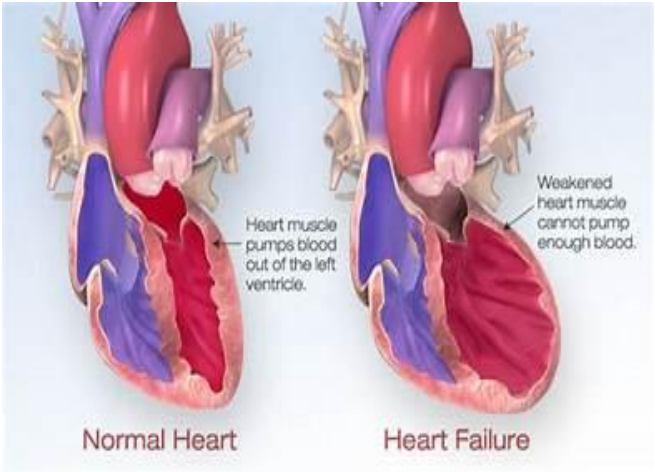
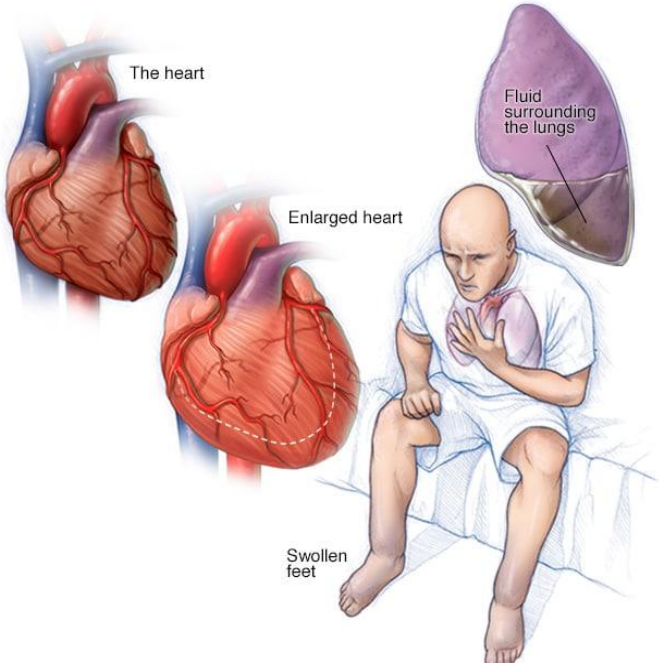
Normal vs. HF Circulatory Dynamics

Aspect of Heart Failure	Normal Function	During Heart Failure	Compensatory Mechanisms	Long-term Effect
Blood Circulation	Efficiently pumps oxygen-rich blood to the body and returns oxygen-poor blood.	Struggles to pump blood, affecting circulation.	Heart may enlarge or beat faster, blood vessels may narrow, kidneys retain more water/salt.	Additional strain on the heart, worsening HF symptoms.
Heart's Workload	Manages workload effectively, maintaining balance.	Cannot keep up with the body's demands for blood.	Temporary measures to maintain blood flow and pressure.	Increased fatigue, breathing difficulties, and other symptoms.



Signs and Symptoms of HF



- Shortness of breath
- Persistent cough with white/pink mucus.
- Swelling in legs, ankles, feet.
- Tiredness and fatigue.
- Difficulty with daily activities

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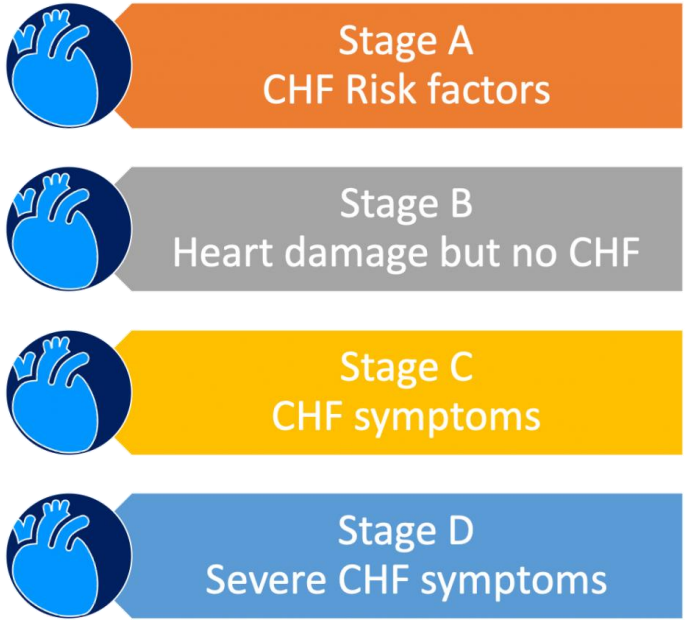
The Progression of Heart Failure

Early Stages (A, B)	• High risk of developing HF. Often no symptoms.
Intermediate Stage (C)	• Symptoms become noticeable. Daily activities more challenging.
Advanced Stage (D)	• Significant impact on quality of life. Advanced treatments needed (e.g., heart transplant).



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Heart Failure Medications

1

Lower Blood Pressure

1. ACE inhibitors (e.g., Lisinopril).
2. ARBs (e.g., Losartan).

2

Reduce Fluid Buildup

1. Diuretics.
2. Mineralocorticoid receptor antagonists (e.g., Spironolactone).

3

Improve Blood Flow

1. Beta-blockers (e.g., Carvedilol).

Medication Management in Heart Failure

1. Adherence to Medication schedule

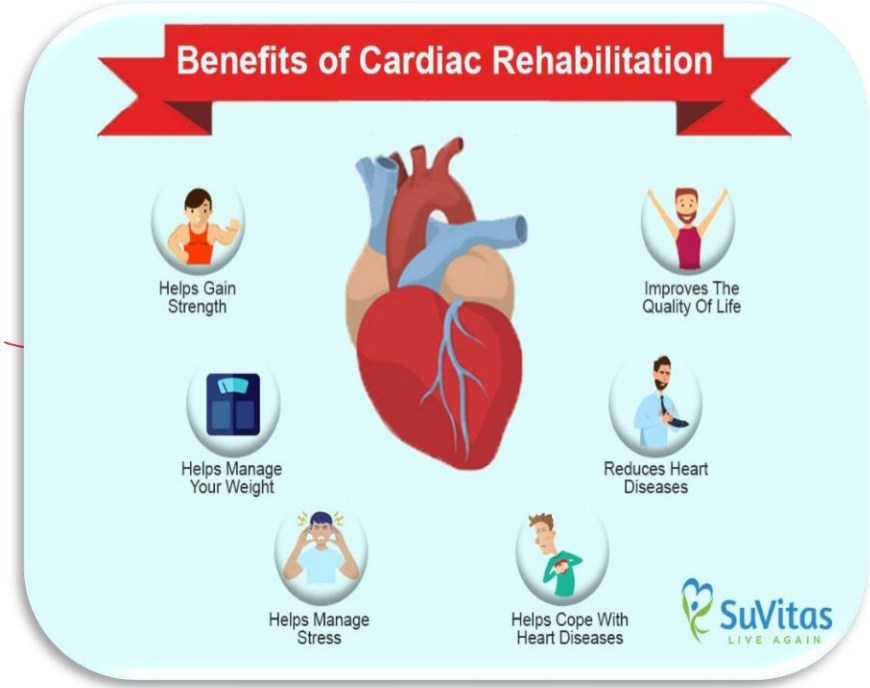
Communicate with healthcare providers.
Adjustments in medication or dosage possible

2. General Tips

- Monitor blood pressure regularly.
- Avoid rapid position changes to prevent dizziness.
- Weigh daily to track sudden weight changes.

3. Prescription Management

- Refill prescriptions on time.
- Ensure continuous availability of medication.



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Benefits of Exercise for Heart Failure

Improved Quality of Life

Reduced Risk of Hospitalization.

Enhanced Heart Function

Symptom Reduction

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Customizing Your Exercise Plan

- Tailor the plan to individual patient needs.
- Consult with medical professionals for safe planning.
- Address specific health condition and physical abilities.
- Track exercise levels to prevent overexertion.
- Ensure the exercise plan optimizes health advantages safely.

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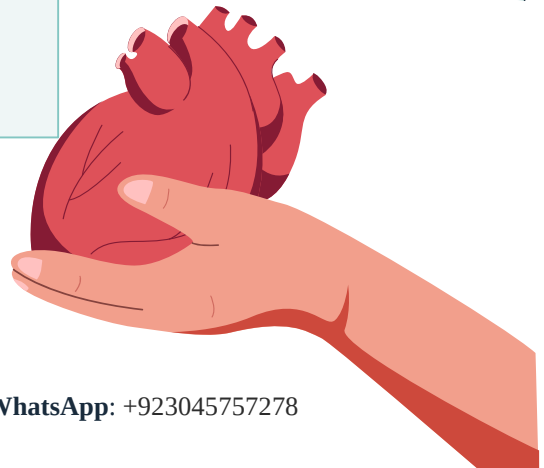
Exercise and Medication: A Synergistic Approach

- Exercise complements heart failure medication
- Improves cardiac function and reduces blood vessel stiffness
- Enhances muscle strength and energy capacity
- Reduces hospitalization rates and improves quality of life
- Lowers cardiovascular risk when combined with medication, leading to better management and outcomes.

Integrating Knowledge for Better Health Outcomes

- Heart anatomy, symptoms, medications, and exercise are linked in managing heart failure.
- Structural changes in the heart impact function, causing symptoms like fatigue, breathlessness, and swelling.
- Medications enhance blood flow, reduce fluid buildup, and lower workload.
- Aerobic exercise boosts capacity and cuts hospitalization risk.
- Adherence to meds, safe activity, and check-ups improve outcomes for heart failure patients.



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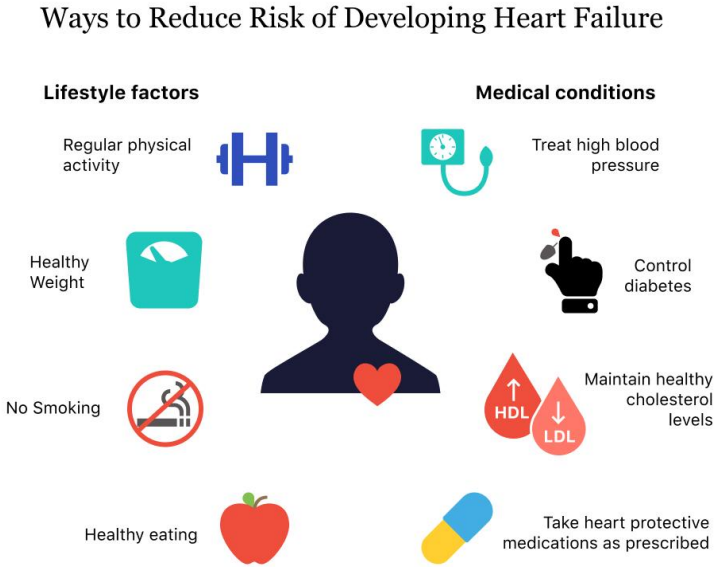
Living with Heart Failure



- Monitoring Your Weight
- Quitting Smoking
- Getting Enough Rest
- Managing Stress
- Managing Fluid Intake
- Limiting Alcohol
- Eating a Heart-Healthy Diet
- Monitoring Blood Pressure

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Conclusion

- Understanding heart anatomy, symptoms, meds, and exercise is vital for effective heart failure management.
- Integrating this knowledge into daily life and lifestyle changes can lead to an active, fulfilling life.
- Adherence to treatments, safe physical activity, and collaboration with healthcare professionals are key.
- Stay positive and proactive in managing heart health for better outcomes.

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