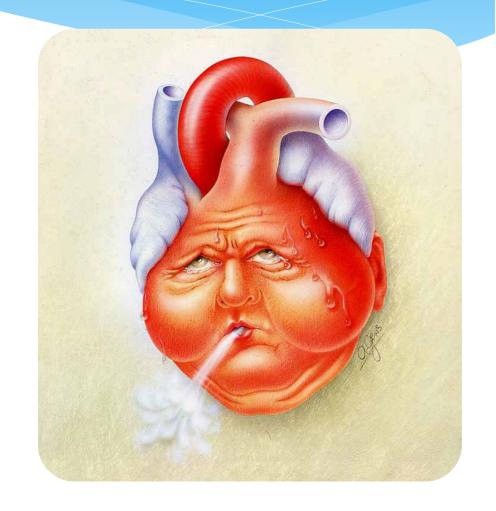
## Who Gets Heart Failure?



CSU Sacramento
Cardiovascular Wellness Program

### What is Heart Failure?

Heart failure is the heart's inability to pump effectively



### Heart Failure Facts

- 6.5 million Americans have Heart Failure
- Every year in the United States over 960,000 people are newly diagnosed with Heart Failure
- Lifetime risk is 1 in 5 of developing Heart Failure
- Heart Failure is the most common discharge diagnosis for patients older than 65 years

## Making a Difference

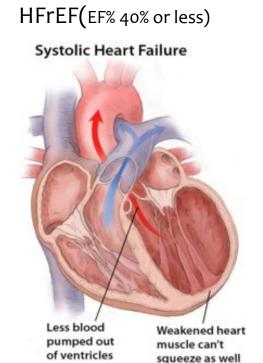
### Heart Failure Awareness Week Theme 2023: **Detect the Undetected Patients**

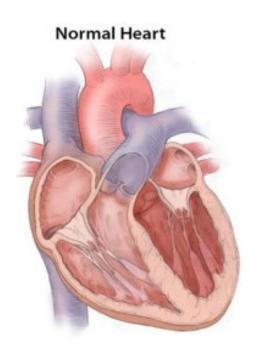
"Intervening early can make the biggest difference to people's lives and outcomes". May 1, 2023

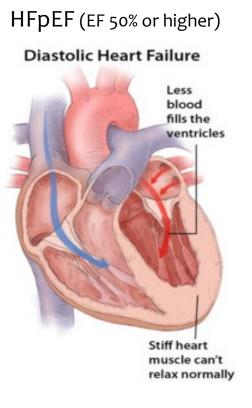
Once diagnosed with Heart Failure, your chance of dying within 5 years is 50 %

But with detection and treatment you can STOP it or SLOW it down or PREVENT it

## Two Main Types of Heart Failure







### Causes of Heart Failure

- Heart attack or coronary artery disease
- High blood pressure
- Heart valve disease
- Genetic Cardiomyopathies
- Endocrine-Diabetes, Hyperthyroidism/Hypothyroidism
- Arrhythmias- e.g. atrial fibrillation, SVT...
- Viral- Infectious/Inflammatory illnesses
- Peripartum Cardiomyopathies
- Toxins (e.g. alcohol, chemotherapy, smoking, illicit drugs, radiation)
- Obesity BMI 30 or higher
- Obstructive Sleep Apnea
- Smoking/Vaping- \*Risk of getting HF is increased by 47%
- Idiopathic (unknown)

## Stages of Heart Failure

#### Heart Failure At Risk for Heart Failure STAGE D STAGE A STAGE B STAGE C Refractory HF At high risk for HF but Structural heart Structural heart disease requiring specialized without structural disease but without with prior or current interventions. heart disease or signs or symptoms of symptoms of HF. symptoms of HF. e.g., Patients who have marked e.g., Patients with: symptoms at rest e.g., Patients with: -hypertension e.g., Patients with: despite maximal -atherosclerotic disease -known structural -previous MI medical therapy -diabetes heart disease (e.g., those who are -LV remodeling Refractory Structural Development -obesity and including LVH and symptoms of recurrently -metabolic syndrome heart of symptoms -shortness of low EF hospitalized or HF at rest of HF disease breath and fatigue, -asymptomatic cannot be safely Patients reduced exercise valvular disease discharged from the -using cardiotoxins tolerance hospital without -with FHx CM specialized interventions) THERAPY THERAPY THERAPY THERAPY GOALS GOALS GOALS -All measures under Stages A and B -Treat hypertension -All measures under Stage A GOALS -Dietary salt restriction -Encourage smoking -Appropriate measures cessation under Stages A. B. C. DRUGS DRUGS FOR Treat lipid disorders -ACEI or ARB in appropriate **ROUTINE USE** Decision re: appropriate -Encourage regular patients (see text) -Diuretics for fluid retention level of care exercise -Beta-blockers in -ACEI Discourage alcohol appropriate patients -Beta-blockers OPTIONS intake, illicit drug use -Compassionate end-of-(see text) -Control metabolic life care/hospice DRUGS IN syndrome SELECTED PATIENTS -Extraordinary measures **DEVICES IN** SELECTED PATIENTS · heart transplant -Aldosterone antagonist · chronic inotropes DRUGS -Implantable defibrillators -ARBs -ACEI or ARB in -Digitalis permanent appropriate patients Hydralazine/nitrates mechanical support (see text) for vascular experimental disease or diabetes **DEVICES IN** surgery or drugs SELECTED PATIENTS -Biventricular pacing

Implantable defibrillators

### How Does Heart Failure Happen?

#### Insult to the Heart

e.g. heart attack, atrial fibrillation, high blood pressure



Change Happens...Chemicals Released

Activation of RAAS, SNS, ET, Pro-inflammatory cytokines, myocytes...



Remodeling of the heart and Progressive worsening of the heart function



Symptoms: SOB, swelling, tiredness, poor memory, wt gain etc.

### Observe for Warning Signs of Heart Failure

- Sudden weight gain
- Increased cough and /or wheezing
- Increased weakness or fatigue
- Increase shortness of breath with activity
- Increase number of pillows at night or sleeping in recliner
- Swelling of feet, ankles, stomach area, hands, face
- Bloating sensation and/or loss of appetite
- New sensation of an irregular heart beat
- Chest pain or discomfort
- Waking up in the night with shortness of breath
- Needing to use more oxygen to breath well
- Others??

# How to Slow the Progression or Reverse Heart Failure

## Initial Insult to the Heart

#### Change Happens...Chemicals Released

Activation of RAAS, SNS, ET, Proinflammatory cytokines, myocytes...

Heart Failure

Symptoms: SOB,
swelling, tiredness,
poor memory, wt. gain,
poor exercise
tolerance, can't lay flat

Remodeling of the heart
Progressive worsening of
the heart function

**SELF CARE** 

### How To Prevent Heart Failure

- Manage Diabetes- Maintain healthy glucose and A1C levels
- Manage Thyroid Disease
- Obesity- Maintain healthy body weight
- Heart Arrythmias- Awareness and management
- Coronary Blockages (CAD)- Good follow-up with cardiologist
- Manage your Cholesterol and Triglyceride Levels
- Treat Obstructive Sleep Apnea
- Stop Smoking
- Maintain Healthy Blood Pressure
- Avoid Heart Toxins

## Manage Your Blood Pressure

•	Age group	Office SBP treatment target ranges (mmHg)					Office DBP treatment target range (mmHg)
		Hypertension	+ Diabetes	+ CKD	+ CAD	+ Stroke*/TIA	
	18-65 years	Target to 130 or lower if tolerated Not <120	Target to 130 or lower if talerated Not <120	Target to <140 to 130 if tolerated	Target to 130 or lower if tolerated Not <120	Target to 130 or lower if talerated Not <120	70-79
1	65-79 years <sup>b</sup>	Target to 130-139 if tolerated	Target to 130-139  If tolerated	Target to 130-139  If tolerated	Target to 130-139 if tolerated	Target to 130-139  If tolerated	70-79
1	≥80 years <sup>b</sup>	Target to 130-139 if tolerated	Target to 130-139 if tolerated	Target to 130-139 if tolerated	Target to 130-139 if tolerated	Target to 130-139 if tolerated	70-79
1	Office DBP treatment target range (mmHg)	70-79	70-79	70-79	70-79	70-79	

## High Blood Pressure and Risk of Heart Failure

- Men with high blood pressure have a 2 x greater risk of developing Heart Failure (JAMA 1996)
- Women with high blood pressure have a 3 x greater risk of developing Heart Failure (JAMA 1996)
- 75% of those with Heart Failure had pre-existing high Blood pressure (Circ 2002)

#### Avoid Heart Toxins: Alcohol

The AHA does not recommend alcohol intake for heart disease prevention.

- No more than 1-2 drinks a day for men
- No more than 1 drink a day for women

A drink is equal to 4 oz wine or 12 oz of beer or 1-1.5 ounces of hard liquor

### **Avoid Heart Toxins: Other Toxins**

- Methamphetamine
- Cocaine
- Ecstasy
- Chemotherapy and Radiation
- Cigarette smoking/vaping

### A Positive Thing: Exercise

- Helps you feel better emotionally
  - Decreases depression and anxiety
- Reduces your risk of having a heart attack or stroke and Heart Failure
- Increases your strength, endurance, flexibility, and balance and helps you get back to doing the things you want to do in life
- Assists in reducing and managing your blood pressure, weight, and cholesterol levels

### Exercise Lowers Risk of Heart Failure

- California Men's Health Study showed lower physical activity and more sedentary time is associated with high risk of HF (Circ 2015)
- In both the Physicians Health Study (JAMA 2009) and the Women's Health Initiative (JAMA 2014) a moderate level of physical activity was one of several healthy lifestyle factors associated with a lower risk of HF.

### Exercise for Those with Heart Failure

HF- Action Trial, JAMA 2009

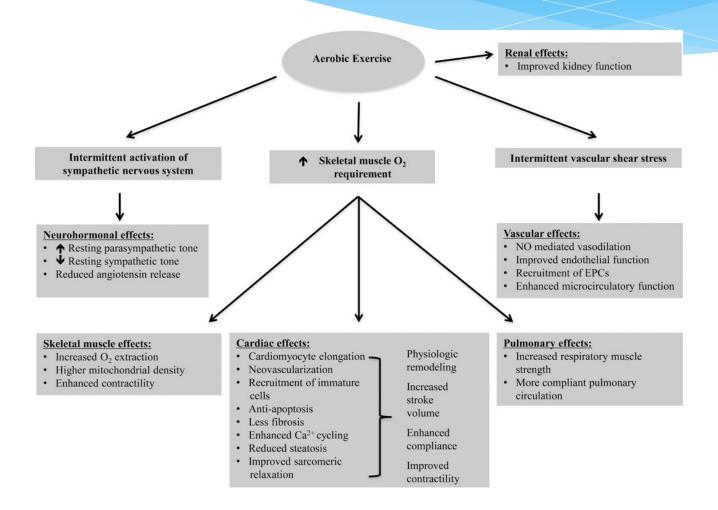
People with heart failure who exercise for about two hours a week on top of optimal treatment may decrease mortality and heart failure hospitalizations

## Exercise Type of Exercise

- Cardiovascular Conditioning (aerobic) Activities
   Walking, Biking, Rowing, Elliptical, Nu-Step, Tennis, Pickleball
   Stairmaster, Gardening, Swimming, Chair Aerobics
- Strength Training
   Dumbbells, Elastic Bands, Weight Machines, Body-Weight Activities

\*European Society of Cardiology recommends both aerobic conditioning and strength training for individuals with Heart Failure (Euro Heart J, 2018)

## Aerobic Exercise Summary



## Aerobic Exercise- How Often, How Much, and How Hard?

Aerobic exercise 5 or more days a week for 30 minutes each session at a "moderate" level

- Start at a length of time you feel comfortable with and increase by 1-2 minutes every 2 days until you reach 30 minutes.
- Slowly build up to 30 minutes- Can be split into different activities to avoid overuse injuries
- Moderate means it should feel "somewhat hard" or you may have a "target heart rate"(64–76% of their age predicted maximal heart rate (220-age).

# Strength Training- How Often, How Much, How Hard?

**Strength Training** (Recommended by the ACSM, ACC, AHA as part of a heart disease prevention program)

- 2-3 times a week
- 12-15 repetitions
- Use weight machines, free weights(dumbbells), elastic bands or body weight
- Train the front and back of major muscle groups (e.g., chest/back and biceps/triceps, hamstrings and quadriceps)

## Stop and Rest

#### If you experience:

- Severe shortness of breath
- Dizziness
- Chest pain or pressure
- Nausea
- Excessive fatigue



Tell your doctor if you experience any of these symptoms

### Medications

- Just a reminder to take medications as instructed
- Medications can be key to better managing conditions that cause Heart Failure
- Discuss side effects with your physician
- Try to understand/see the connection between the medicine you are taking and any improvements happening in your health

## Start Today...

Every day is a fresh start. It's never too late or too early to invest in your heart health

When we take care of our hearts we reduce our risk of heart disease

Make yourself a priority