**HEART FAILURE**

**Definition:** A condition in which the heart fails to pump blood through the circulatory system as it should. This results in decreased blood flow to the kidneys, causing the kidneys to retain water and sodium which then accumulates in the lungs, abdominal organs and the lower extremities (edema). Common symptoms include shortness of breath and easy fatigability.

The function of the myocardium may be impaired by damage due to chronic ischemia, myocardial infarction or from progressive strain on the ventricles by damaged heart values or prolonged, uncontrolled hypertension. Rarer causes of heart failure include myocarditis and hereditary cardiomyopathy.

Heart failure is divided into two types: **Systolic & Diastolic**

**Systolic** heart failure is characterized by:
- Dilated, weak heart / thin ventricular wall
- Decreased outflow of blood from the heart (impaired ventricular pumping function)
- Low ejection fraction (EF < 40%)
- Most common cause: coronary artery disease (ischemic cardiomyopathy)
- More common than diastolic failure
- **Must** be treated with an ACE inhibitor (ACEI) or ARB (unless contraindicated) because these drugs prolong (and improve the quality of) life, reduce complications, and lower hospitalization rates for patients with any component of systolic heart failure.

**Diastolic** heart failure is characterized by:
- Thickened myocardium/hypertrophic ventricle
- Low capacity ventricular chamber
- Ventricle does not relax properly
- Normal (55-70%) or elevated ejection fraction (EF)
- Impaired filling with blood (during diastole)
- Strong ventricular contraction

*Continued —*
Diastolic heart failure, Continued

- Common cause is uncontrolled HTN (hypertensive cardiomyopathy) or ESRD
- May be treated with ACEI or ARB, but they do not have the same benefits in patients with pure diastolic heart failure as in patients who have any component of systolic heart failure

Documentation Issues: The distinction between systolic and diastolic dysfunction has become critical for the appropriate care and management of patients with heart failure. Likewise, “congestive heart failure” is considered non-specific, outdated and inadequate to describe this condition.

Heart failure including “CHF” must be specified as systolic or diastolic failure or dysfunction to qualify as an MCC/CC. Chronic, stable, or unspecified systolic/diastolic heart failure is a CC. Acute severity will qualify as an MCC.

Indicators of an acute state include: IV medications, supplemental oxygen, pulmonary edema/congestion on chest x-ray, exacerbation of symptoms, difficulty breathing, swelling of extremities, BNP > 500. The terms “decompensated” or “exacerbation” equate to acute.

The ICD-9-CM Index to Diseases also makes it quite clear that the term systolic or diastolic “dysfunction” with any reference to heart failure is specific enough for code assignment. If the necessary information isn’t there, a query would be appropriate.

Cardiologists commonly use “hypertensive cardiomyopathy with preserved ventricular function” to describe diastolic heart failure but this will not result in classification as a CC or MCC.

I-10: Code descriptions unchanged (150.1-150.9).

Continued —
**HEART FAILURE**

**Cor Pulmonale** is a special form of right-sided heart failure, usually diastolic in nature. It is caused by pulmonary hypertension due to severe COPD, interstitial lung disease, neuromuscular disorders, sleep apnea and other chronic hypoxic states.

Acute cor pulmonale is an MCC but is not often documented by physicians using these words. Instead it’s usually identified as:

- Right-sided heart failure (428.0)
- Pulmonary heart disease (429.89)
- Pulmonary hypertension (416.8)

None of these are CCs or MCCs even if described as “acute”. Also, chronic cor pulmonale is neither a CC or MCC.

However, Acute Cor Pulmonale is comparable to acute diastolic [right] heart failure and this terminology would accurately reflect the significance of this condition (MCC).

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**I-10:** *Acute cor pulmonale (NOS) is listed as I26.09 - Other pulmonary embolism with acute cor pulmonale, an MCC. Chronic or unspecified cor pulmonale is coded I27.81, not CC or MCC.*

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**Echocardiogram:** Evaluates heart valves, blood flow, systolic/diastolic function, ejection fraction, chamber size, ventricular wall motion and thickness. Any echocardiogram that does not assess the parameters for diastolic dysfunction and report accordingly should be considered incomplete.

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Medications for Heart Failure:

**Diuretics** are used to eliminate / reduce fluid retention. Examples include:

- Aldactone (spironolactone) – reduces mortality in severe/advanced heart failure
- Lasix (furosemide)
- Bumex (bumetanide)
- Zaroxyolyn (metolazone)
- Hydrochlorothiazide (HCTZ)
- Maxzide / Dyazide (triamterene + HCTZ)

**ACEIs** (Angiotensin Converting Enzyme Inhibitors) such as Vasotec (enalapril), lisinopril, captopril and others.

**ARBs** (Angiotensin II Receptor Blockers) like Avapro, Diovan, Micardis, losartan and others.

Note: ACEIs and ARBs have similar mechanisms of action and clinical effects; they are rarely used in combination with each other.

**Beta-blockers** slow the heart rate, lower blood pressure, reduce cardiac oxygen consumption and lessen the cardiac workload. They are considered first-line therapy for diastolic heart failure and also important in systolic failure. Three beta-blockers have been shown to improve survival in heart failure:

- Coreg (carvedilol)
- Toprol XL/Lopressor (metoprolol)
- Zebeta (bisoprolol)

Continued —
HEART FAILURE

Nitrates are venous and coronary artery vasodilators that reduce cardiac work, increase coronary blood flow and improve cardiac performance. Examples of nitrates include:
- Nitroglycerin (IV, transdermal, oral) including Nitro-Dur and Nitro-Bid
- Imdur (isosorbide mononitrite)
- Isordil (isosorbide dinitrate)

Digoxin improves the pumping ability of the heart in systolic heart failure, but does not benefit diastolic heart failure. The best-known brand name is Lanoxin.