Ongoing care

- FOLLOW-UP RECOMMENDATIONS
  - *Patient Monitoring*
    - Adequate anticoagulation levels with **warfarin** should be determined weekly during initiation and monthly when stable. If NOACs are employed, hepatic and renal functions should be reevaluated annually
  - DIET
    - Patients on **warfarin** should attempt to consume a stable amount of vitamin K.
  - PATIENT EDUCATION
    - For overweight and high BMI patients, weight loss combined with risk factor modification have demonstrated beneficial effects on controlling AFib

Heart Failure- Updated guidelines 2022

- Signal symptoms
  - Dyspnea on exertion, orthopnea, fatigue, leg edema, paroxysmal nocturnal dyspnea, progressive activity intolerance,
- Description
  - Pump failure: Clinical syndrome caused by the heart's inability to eject enough blood to maintain tissue perfusion
- Different types:
  - Right vs left Heart failure
  - Heart failure with reduced ejection fraction (HFrEF) AKA systolic heart failure
  - Heart failure with preserved ejection fraction (HFpEF). AKA diastolic heart failure

PROGNOSIS

- Median survival rates of 2–3 years
  - 25%–30% of patients die within 1 year after initial diagnosis
  - 50% survive 1–5 years
  - 20%–25% survive >5 years
  - More than 250 thousands Americans die from HF each year.
- patients with HFPEF (Diastolic heart failure) have somewhat better survival rates than patients with systolic HF (HFREF= EF less than 40%)

EPIDEMIOLOGY OF HEART FAILURE (HF)

- Incidence and prevalence increase with age
  - 6 millions Americans and >850,000 new cases annually
  - Leading cause of hospitalization and rehospitalization in older adults
  - Median age of patients hospitalized with HF is 75 years, and approximately two thirds of deaths attributable to HF are in patients age 75 years or older
- HF is a major cause of chronic disability and impaired quality of life in older adults

Risk factors

- older age
- Higher in AA with poorer outcomes
- physical inactivity
- cigarette smoking
- lipid abnormalities
- overweight/obesity
- Hypertension: (lead to structural and functional abnormalities-> increase mortality. Controlling B/p is primordial especially in HFpEF.
- diabetes mellitus
- metabolic syndrome
- Insulin resistance
- Outcomes and progression of disease
- Worst among patients with diabetes and/or insulin resistance and/or lipid abnormalities.
- High B/p and elevated BMI are associated with better outcomes in HF patients.

Heart Failure

Signs and Symptoms of Heart Failure

"A N-E-W L-E-A-F"

A: Acute Agitation/Anxiety
N: Nighttime shortness of breath or ↑ nighttime urination
E: Edema in lower extremities
W: Weight gain (2–4 lb/week)
L: Lightheadedness
E: Extreme shortness of breath lying down
A: Abdominal symptoms (nausea, pain, decreased appetite, distention)
F: Fatigue

Cardinal S/S of HF
Dyspnea
fatigue
decrease exercise tolerance
fluid retention
S/s of pulmonary and/or splanchnic congestion and/or peripheral edema.

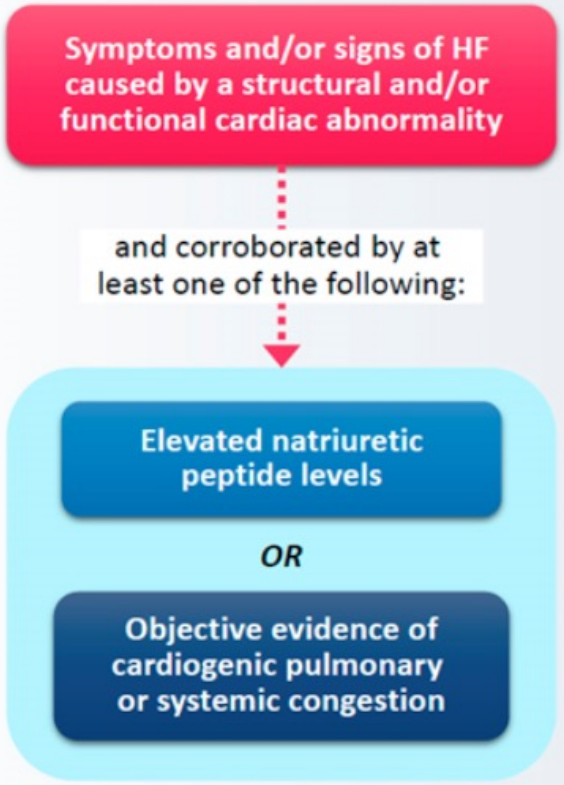
Clinical approach: In primary care

- probability of HF if patient presents with symptoms or signs of HF:
  - based on the patient's prior clinical history, presenting symptoms, physical examination, and resting electrocardiogram.
  - If these elements are normal, HF is unlikely, and other diagnoses should be considered.
  - If at least one of these elements is abnormal, plasma NPs should be measured, if abnormal order an echocardiography.
  - American College of Cardiology/American Heart Association (ACC/AHA) guidelines recommend that when patients present with dyspnea, measurement of BNP or NT-proBNP can be useful to support a diagnosis and severity or to exclude HF.

Recognizing worsening HF

- Clinical clues that a patient may have worsening or advanced HF include the folllowing:
- Persistent New York Heart Association (NYHA) III-IV symptoms
- ≥2 emergency department (ED) visits or hospitalizations for acute HF in 12 months
- High risk biomarker profile (hyponatremia, very elevated NPs or troponin)
- Inability to up titrate guideline-directed medical therapies because of hypotension (SBP ≤90 mmHg), dizziness, excessive fatigue, nausea, etc.
- Onset of arrhythmias (atrial fibrillation, ventricular tachycardia with implantable cardioverter-defibrillator [ICD] shocks)
- Escalating doses of diuretics (e.g., >160 mg/d furosemide) or persistent edema despite escalating diuretic doses
- Need for intravenous inotropes

Heart Failure: Revised guidelines 2022



Elevated NP levels	Ambulatory	Hospitalized/ Decompensated
BNP, pg/mL	≥ 35	≥ 100
NT-pro-BNP, pg/mL	≥ 125	≥ 300

Figure 1. Universal definition of HF[3]

Biomarkers in HF

- Early diagnosis of HF is challenging
  - Nonspecific clinical presentation of HF
- Use of biomarker: BNP, NT pro-BNP: essential in patient's evaluation and diagnostic process.
- Note: patients with HFpEF (more than 50%) ,
- AA and high BMI may have low BNP baseline
- cardiac troponin is not specific for establishing a diagnosis of HF.
  - Elevated high-sensitivity cardiac troponin (hs-cTn) is associated with worse clinical outcomes.

Elevated NP levels	Ambulatory	Hospitalized/ Decompensated
BNP, pg/mL	≥ 35	≥ 100
NT-pro-BNP, pg/mL	≥ 125	≥ 300

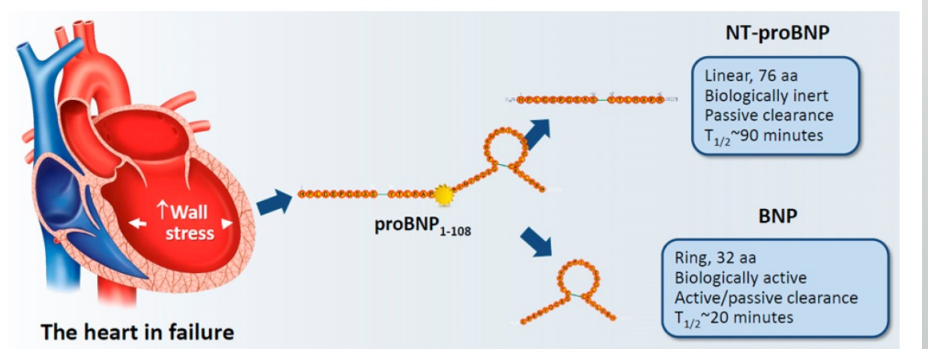


Figure 4. Physiology of the NPs