PALLIATIVE CARE IN HEART FAILURE

Dr. Semionov Valentina
Pain and Palliative Care Unit,
Ben-Gurion University of the Negev,
Clalit Health Services,
Beer-Sheva, Israel

Objectives

- Define Heart Failure (HF), end stage HF
- Define Palliative Care
- Prognosis in HF
- Palliative care for HF

Heart Failure
(definition)

- **The inability of heart to meet the metabolic demands of the body**

The Burden of Advanced Heart Failure

- More than **5 million** Americans have heart failure, **1-2%** of general population, **20%** of elderly (Hauptman 2005)
- The number of deaths due to heart failure in 2004 was **284 365**
- The yearly cost of heart failure was roughly $**30 billion** in 2006.
- End-stage heart failure has one of the largest effects on quality of life of any advanced disease

Circulation
JOURNAL OF THE AMERICAN HEART ASSOCIATION

Decision Making in Advanced Heart Failure: A Scientific Statement From the American Heart Association

Larry A. Allen, Lynne W. Stevenson, Kathleen L. Grady, Nathan E. Goldstein, Daniel D. Matlock, Robert M. Arnold, Nancy R. Cook, G. Michael Felker, Gary S. Francis, Paul J. Hauptman, Edward P. Havranek, Harlan M. Krumholz, Donna Mancini, Barbara Riegel and John A. Spertus

Circulation. 2012;125:1928-1952; originally published online March 5, 2012;
doi: 10.1161/CIR.0b013e31824f2173
Circulation is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231

Print ISSN: 0009-7322. Online ISSN: 1524-4539

Why palliative care for HF ?

- **Median survival:**
  - **grades 3 and 4 - 1 year**

"More malignant than cancer? Five-year survival following first admission for heart failure".

Eur J Heart Fail 2001

Why

Table 1. Incidence of and Number of Deaths Due to Heart Failure Compared With Other Common Causes of Death in the United States

Cause of Death	Incidence	Deaths
Heart failure[3]	≈500 000	284 365
Lung cancer[4]	196 252	158 006
Breast cancer[4]	188 587	41 316
Prostate cancer[4]	189 075	29 002
HIV/AIDS[5]	37 726	16 395

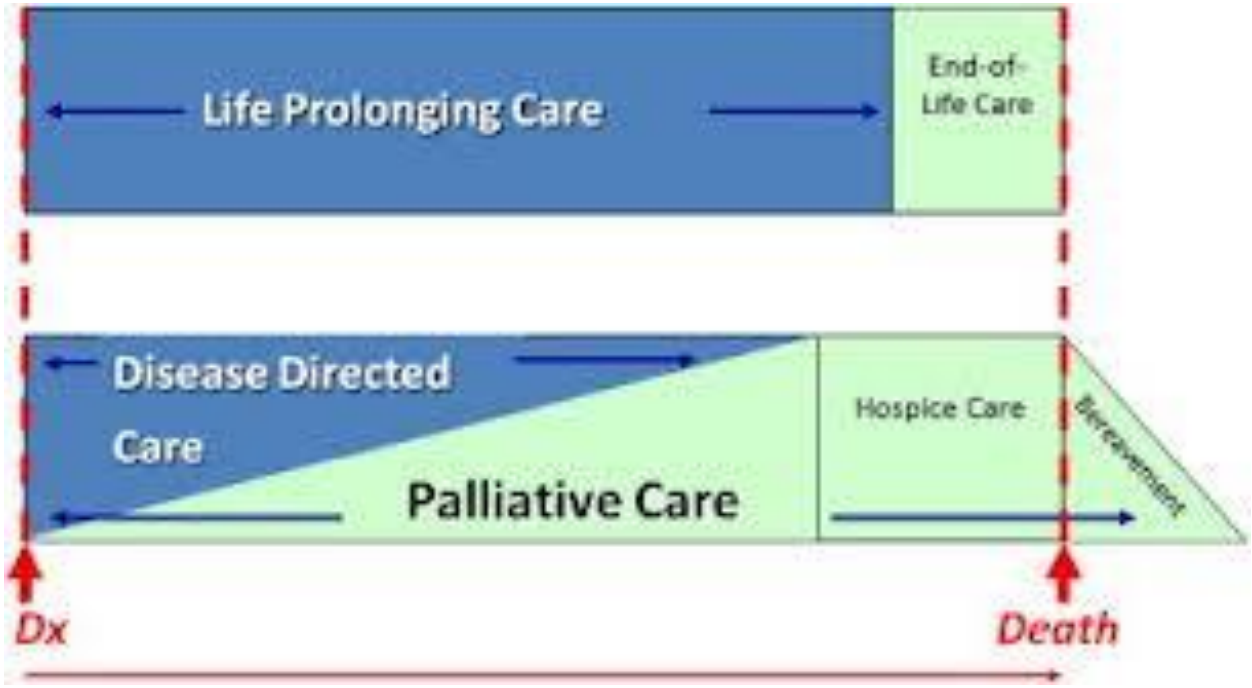
Circulation December 22/29, 2009

Palliative Care
WHO

Approach that improves of quality of life of patients and families facing life - threatening illness

- ***Prevention and relief of suffering***
- ***Early identification and assessment***
- ***Treatment of pain and other problems: physical, psychosocial and spiritual***

Palliative care integrative model



Heart failure common symptoms

- Fatigue
- Dyspnea
- Edema
- Insomnia
- Anxiety and Depression
- Pain
- Confusion
- Anorexia
- Constipation
- Polypharmacy
- Fear of the future

Similarities to Cancer

An Evaluation of the Prevalence and Severity of Pain and Other Symptoms in Acute Decompensated Heart Failure

- Pain is a common, under recognized symptom in patients with chronic but acute decompensated

Decr

Sh

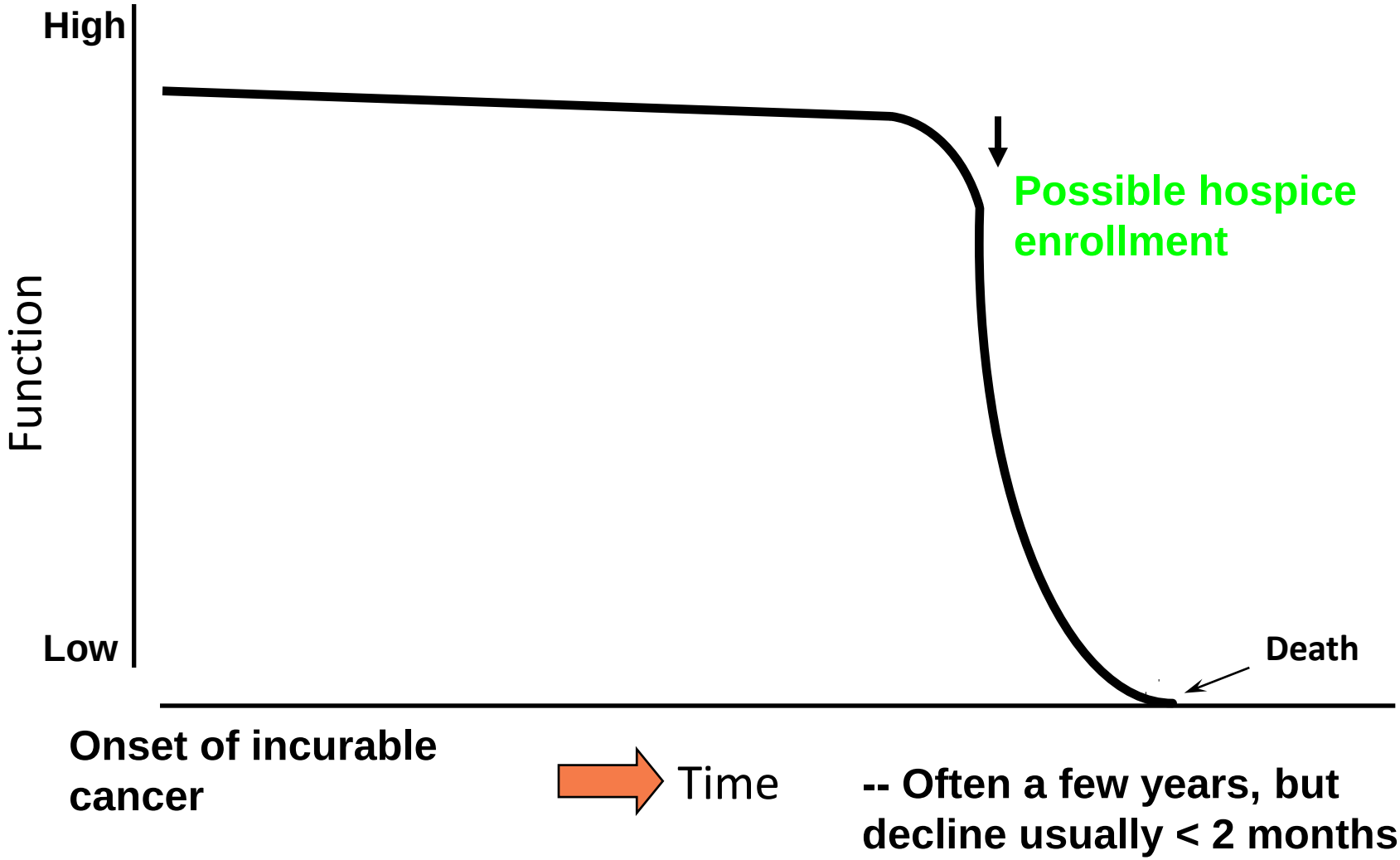
the most common and severe symptoms in patients with chronic heart failure, regardless of ejection fraction

J. of Pal. Med. 2013

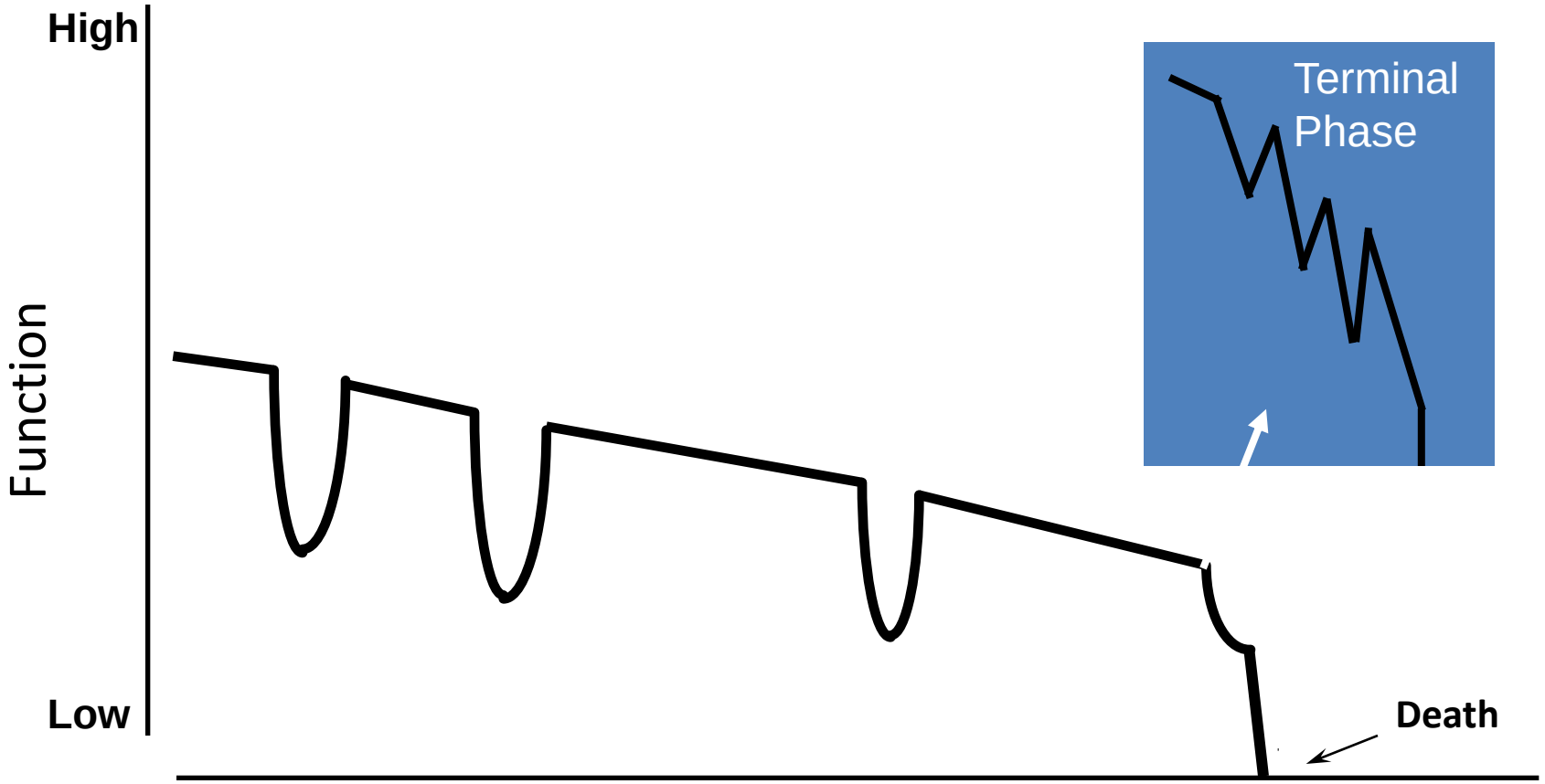
Barriers to the integration Palliative care and Cardiology services

- Recognition End stage disease of HF
- The unpredictable disease trajectory (***Prognostic paralysis***)
- Reluctance of Knowledge that CHF is terminal illness
- Lack coordination of services and lack of confidence communication

“Cancer” trajectory – diagnosis to death



‘Organ system failure’ trajectory



Stage of Heart Failure

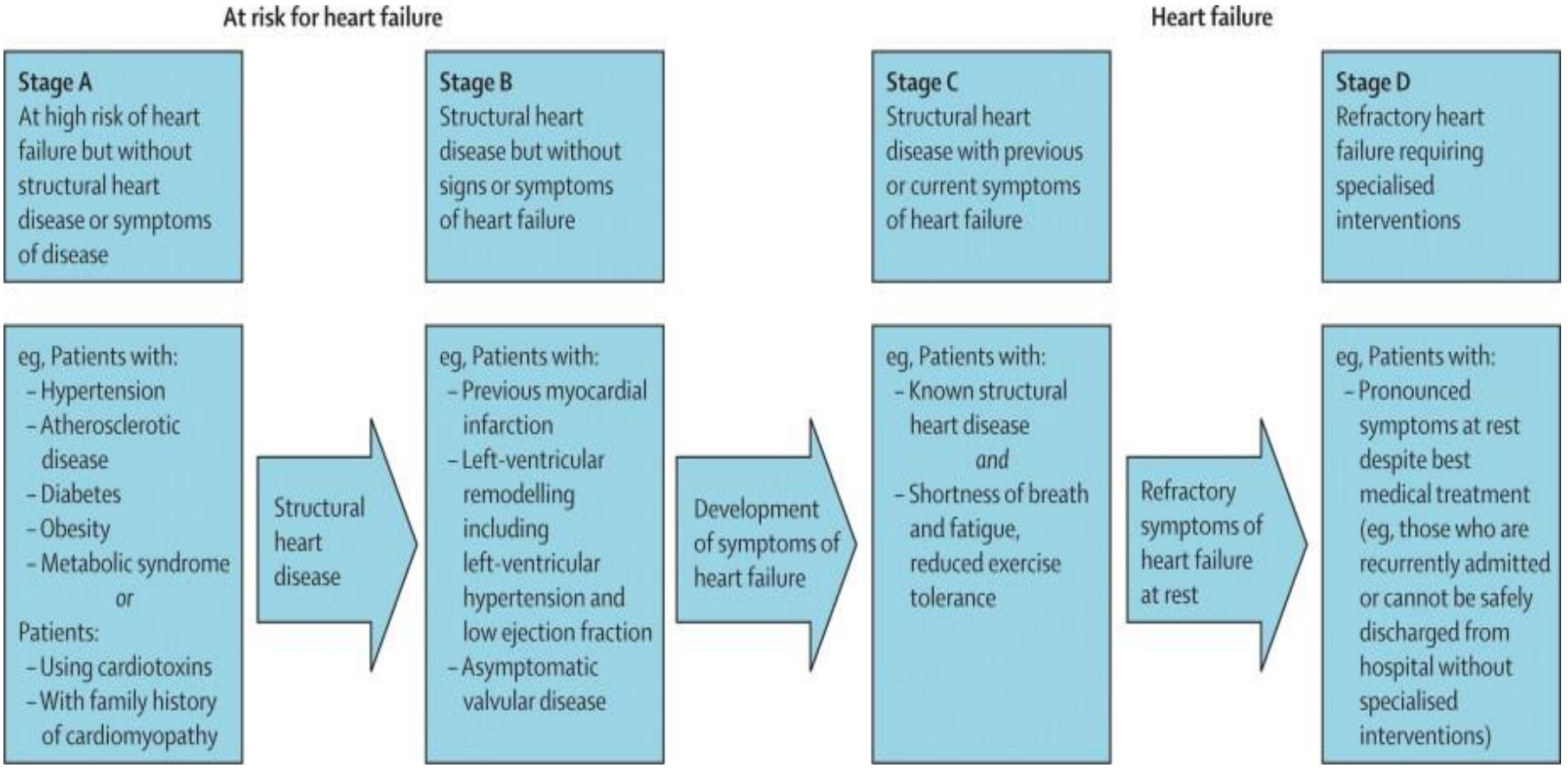
American College of Cardiology defines stage of Heart Failure :

- **Stage A : high risk for developing HF**
- **Stage B: asymptomatic LV dysfunction**
- **Stage C: past or current symptoms of HF**
- **Stage D: end stage HF**

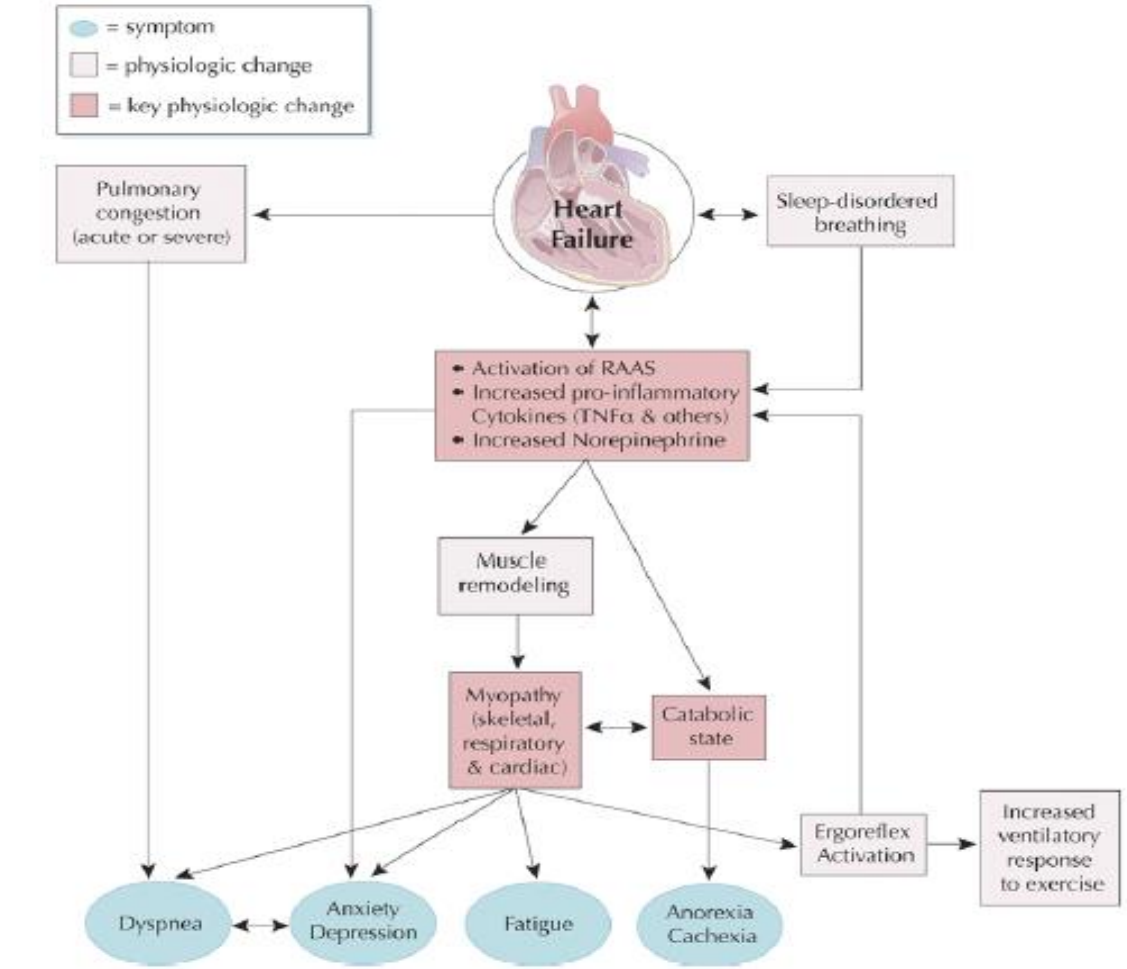
New York Heart Association (NYHA) Classification

- **Class I – No dyspnea (but low EF on echo)**
- **Class II – Dyspnea on strenuous activity**
- **Class III – Dyspnea on activities of daily living**
- **Class IV – Dyspnea at rest**

Stages in the Development of Heart Failure



Schematic Etiology of Heart Failure Symptoms



End Stage Heart Failure

NYHA Grade

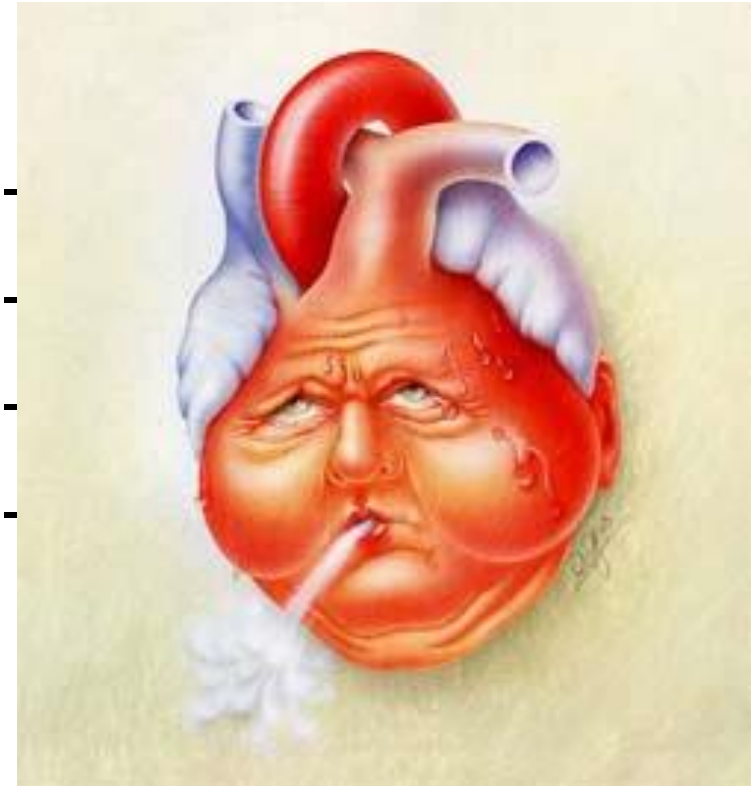
Dyspnea at rest -

Often have hypotension -

Clinical features of CHF -

Typically EF < 20% -

(Grade 4 Ventricle) •



Prognosis in Heart Failure

- **Difficult to predict time of death**
- **Challenging in HF d/t:**
  - ***Cyclical nature of disease***
  - ***Complexity of care***
  - ***Recent advances (in med. devices):***
    - ***Implantable defibrillators***
    - ***Biventricular pacesmakers***
    - ***LVAD***

Prognosis in Heart Failure

Mechanism of death in HF :

- ***Sudden cardiac death***
- ***arrhythmias -Brady- or Tachy***
- ***Progressive heart failure***

Varies depending on NYHA class:

- **Class II –higher risk of sudden death or "drop"**
- **Class IV-increasing symptoms**

-

Prognostication

NYHA Class	1 Year Mortality
I	5-10%
II-III	15-30%
IV	50-60%

Prognosis in Heart Failure

- **: Heart Failure Prognostic Tools**

Single-item predictors : *6-minute walk test,* –

maximal oxygen consumption, B-type natriuretic peptide, creatinine levels

Complex multivariable models –

Seattle Heart Failure Score –

ADHERE (Acute Decompensated Heart Failure – National Registry)

Prognosis in Heart Failure

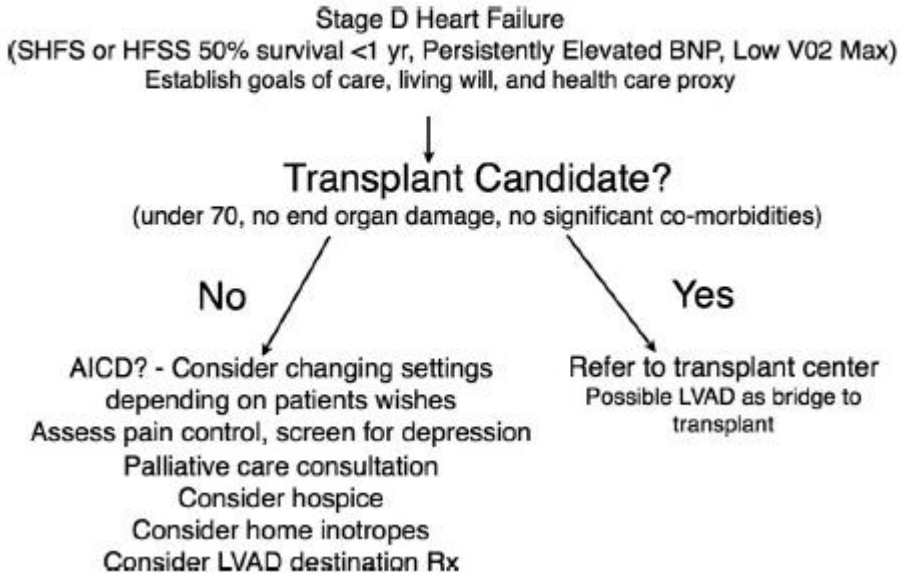
Factors that predict an increased likelihood of death:

- frequent emergency department visits or hospitalizations
- symptoms at rest
- weight loss 10%,
- albumin 2.5 g/dL
- ejection fraction 20%
- symptomatic arrhythmia
- prior cardiopulmonary resuscitation, prior syncope, and embolic stroke

Prognosis in Heart Failure (c0nt.)

- New York Heart Association Class IV admission in past 12 months
- Decline in functional status and need for assistance in activities of daily living
- Persistent S3 gallop rhythm
- Serum creatinine increased
- Resting heart rate ≥100 bpm
- Age ≥70 years
- Serum haemoglobin ≤115 g/L without documented site of bleeding

Guideline Recommendations for Palliation in End-Stage Heart Failure (ACC & AHA 2005)



Optimal Medical Management

Table 1 Pharmacological management of end stage heart failure[1–5]

- **Goal 1: Improvement of morbidity and mortality**

ACE inhibitors
ARBs (if ACE inhibitor intolerant or plus ACE inhibitors if still symptomatic)
Selected β-blockers
Aldosterone antagonists

- **Goal 2: Control of symptoms**

Diuretics (eventually thiazide plus loop diuretic)
Digitalis (low-dose)
Consider temporary inotropics
Selected antiarrhythmics

- **Goal 3: Palliation**

Opioids, antidepressants, anxiolytics
Oxygen
Consider continuous inotropics

ACE, angiotensin-converting enzyme; ARBs, angiotensin II type I receptor blockers.

Pharmacologic Management

Drug	NYHA 1	NYHA 2	NYHA 3	NYHA 4	Survival	Hospital Admits	Functional Status
Diuretic	X	☆	☆	☆	→	↓	↑
ACE-I ARB ARNI	☆	☆	☆ +++	☆	↑	↓	↑
Spirono -lactone	X	X	☆	☆	↑	↓	↑
B-blocker	X	☆	☆	☆	↑	↓	↑
Digoxin	X	☆	☆	☆	→	↓	↑

Oxford 2002

Sources of Suffering in Advanced Heart Failure

The most common symptoms and co-morbidities

- Dyspnea
- Pain
- Depression
- Fatigue
- Edema

Symptom Oriented Palliation

Symptom Oriented Palliation: Dyspnea

Loop diuretics
with or without
thiazides
Nitrates
Low-dose opioids

Benzodiazepines
Oxygen
Inotropes
?

Acupuncture
Relaxation Techniques
Psychotherapy
Exercise Training
Breathing Training
???

Pain

- **78% of heart failure patients experience pain**
- Need to consider psychological, emotional and spiritual aspects, what pain signifies e.g progression of illness
- Need full assessment of pain site e.g other causes than heart failure

Analgesic Ladder –

- Step one Non opioid (e.g Paracetamol)
- Step two Weak opioid +/- step one analgesia
- Step three Strong opioid + step one
- **Remember**- Non steroidal anti-inflammatory agents worsen heart failure!

Symptom Oriented Palliation: Pain

- **Opioids**

studies suggest ***true addiction in terminally ill patients is rare !!!***

- **Bone pain**: bisphosphonates
- **Anginal pain**:

nitrates –

b-blockers –

calcium channel blockers –

Revascularization –

Symptom Oriented Palliation: Depression

- ***SSRI (<u>first-line !</u>)***
- ***SNRI***
- ***TCA (avoid !)***

- **Psychological interventions**:
  - cognitive behavioral therapy
  - counseling
  - supportive therapy

- **Exercise**
- **Acupuncture**

Causes of *fatigue* in heart failure

Drug causes

- Overdiuresis
- Hypokalaemia from loop diuretics
- b-blockers
- Blood loss due to aspirin

Anaemia

- See aspirin
- Anaemia of chronic disease
- Co-morbidities—for example, pernicious anaemia, malignancy

Sleep problems

- Orthopnoea
- Paroxysmal nocturnal dyspnoea
- Periodic respiration / sleep apnoe
- Anxiety/depression

Psychological

- Depression
- Anxiety

Symptom Oriented Palliation:Fatigue

- **secondary causes :**
  - anemia, infection , dehydration, electrolyte abnormalities, thyroid dysfunction ,depression .
- **primary fatigue :**
  - Methylphenidate (**cautiously!**)
  - training in energy conservation and aerobic exercise
  - CPAP for OSA

Symptom Oriented Palliation:

Edema

- Monitor weight regularly
- Weight loss 0.5-1kg/day

Compressic

Flui

Elevate

Edema (swelling) of the ankles and feet

- Paracentesis for refractory ascites

Symptom Oriented Palliation: Nausea and Vomiting

- Patients with advanced heart failure have multiple causes of nausea and vomiting
- Consider drug cause
- If constant nausea, renal impairment or renal failure use **Haloperidol 1.5-3mg orally**
- If related to meals, early satiety, vomiting of undigested food or hepatomegaly

Metoclopramide 10mg po –

Symptom Oriented Palliation: Cachexia and Anorexia

- Patients with heart failure have poor appetite and lose significant amounts of weight.
- Focus of earlier dietary advise may need to be revised
  - For cachectic patients consider high calorie, high protein with no added salt
  - Patients may develop low cholesterol levels and in these circumstances consider stopping statin
  - Fat-soluble vitamins
  - Referral to dietician

Medical Therapy Discontinuation

The discontinuation of medical therapy may result in an improvement in quality of life:

- **B-Blockers** may need to be withdrawn in patients with refractory fluid overload or symptomatic bradycardia
- **ACE-I /ARB** if end-stage patients develop azotemia or symptomatic hypotension
- **Aspirin ?**
- **Statines ?**

Table 3 Drugs to avoid if possible in symptom control in heart failure

Drug	Problem
Non-steroidal anti-inflammatory drugs (NSAIDs)	Salt and water retention with risk of decompensation
Steroids	Same as for NSAIDs
Drugs with significant anticholinergic effect, eg, cyclizine and tricyclics antidepressants	Pro-arrhythmic: avoid unless patient is in the dying phase
Bulking agents such as ispaghula husk	Risk of exacerbating constipation in patients on fluid restriction

General note: be aware of potential of drug interactions with patients on warfarin.

Comprehensive HF care

Supportive care:

A. Communication

B. Education

C. Psychosocial and spiritual issues

D. Symptom management

Communication in End-Stage Heart Failure

- minimal communication from physicians about what to expect !
- advance directives
- goals of care, established by the patient:

comfort measures to life-prolonging measures

Communication in End-Stage Heart Failure

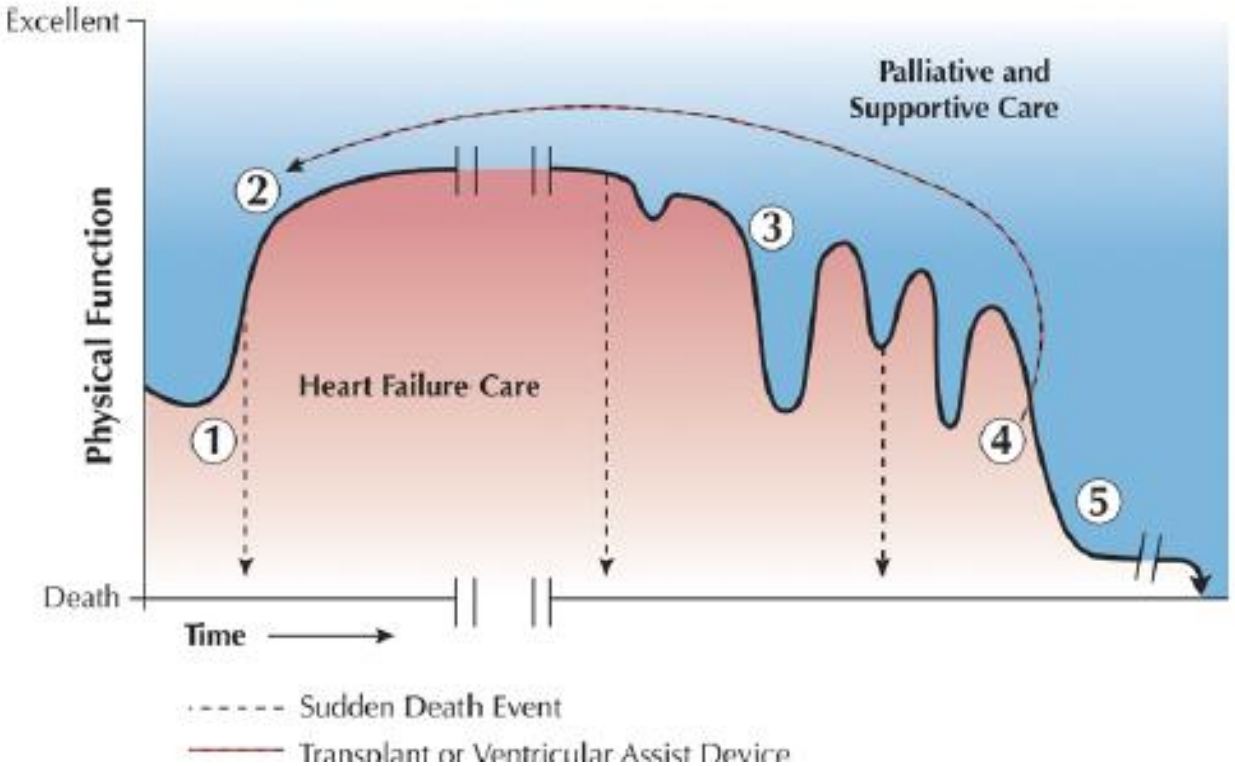
Effective dialogue includes the following:

" *Some of my patients tell me that if they were permanently comatose or severely brain injured and unable to recognize or interact with loved ones, they would want care focused only on* ***making sure they were comfortable****. Other patients of mine tell me they would want* ***all life-prolonging technologies, no matter how brain damaged they were****. Which would you choose?"*

Communicating With Patients With Advanced Heart Disease Using the N-U-R-S-E Mnemonic

Technique	Sample Language
Name the emotion	You seem worried about what will happen if we don't implant the LVAD. Can you tell me more about that?
Understand the emotion	I see why you might be fearful of proceeding with the transplant. Can you help me understand what you're afraid of?
Respect the emotion	You have shown a lot of strength up to this point. Tell me more about what keeps you going
Support the patient	Whether or not you choose to have the procedure, I want you to know that I will continue to be your cardiologist and will take care of you no matter what happens
Explore the emotion	You mentioned earlier that you're concerned about what this worsening of your shortness of breath might mean. Can you tell me more about your concerns?

Schematic Depiction of Comprehensive Heart Failure Care



COMPREHENSIVE HF CARE

	PHASE 1	PHASE 2	PHASE 3	PHASE 4	PHASE 5
NYHA class	**II-III**	**II-IV**	**III**	**IV**	**IV**
HF CARE	Stand. Care	Drug tx ICD/CRT	Re-evaluat. Drug tx	Heart transp Inotrope	Stop medic. Cont ace,arb
Decision making	**Preference** ICD/CRT-D	General **goals** care	Patient **preferences**?	**Palliative care ?**	**Site** of care? **How to manage** death
Supportive Care					
A. Communication	**Understand concerns and fears**	**Elicit sympt.and assess QOL**	**Re-evaluate goals of care**	**Acknowledge present status**	**Preferences for end-of-life care**
B. Education	**Patient/fam. selfmanagement**	**What to do in an emergency**	**Intervent.ind eterioration in status**	**Optimal management**	**Advanced directives**
C. Psych/soc.-spiritual	**Coping with illness pat. and family**	**financial resources**	**Family stresses and resources**	**Re-evaluate stresses, needs**	**concerns regarding dying**
D. Sympt. Care	**Symptom**	**management**	**Symptom**	**management**	**MO, O2, stimulants**

Summary

- **CHF has a very poor prognosis**
- **Often need multiple medications for symptom control**
- **Palliative care can be of help in CHF**
- **Need multidisciplinary team**
- **Do we have the resources to palliate CHF??**


Palliative Care Means
To cure, sometimes
To relieve, often
To comfort, always