

Patient: _____ was admitted to the Cardiology Service
 at the _____ from Y ____ /M ____ /D ____
 to Y ____ / M ____ / D ____ under the care of Dr. _____.

Discharge Diagnoses include:

- CAD-CCS Class: 0 1 2 3 4
- Unstable angina
- Non STEMI (non-ST elevation MI)
- STEMI (ST elevation MI)
- Atrial fibrillation
- SVT
- VT
- CHF-NYHA Class: I II III IV
- Other: _____

Risk Factors:

- HTN DM Dyslipidemia Smoking Family History CAD

Past Medical History:

- Angina MI PCI CABG Valve Replacement
- Other: _____

Complications:

- Recurrent ischaemia
- CHF-Killip Class ____ / IV
- Pericarditis
- DVT/ Pulmonary embolism
- Heart Block: 1° 2° WB Mobitz II 3°
- Temporary Pacer Insertion Y/N
- LV thrombus
- Mechanical complication
 - MR
 - Aneurysm
 - Septal rupture
- Atrial fibrillation
- Ventricular tachycardia
- Other: _____

Pertinent Investigations:

Peak CK _____ CK MB _____ Troponin I/T _____ Other: _____

Total cholesterol: (target value mmol/L)

LDL ____ (<4.5) TG ____ (<1.7) HDL ____ (>1.2) LDL ____ (<1.8/2.0)

Stress Test:

Ex duration ____ Peak HR ____ (% PMHR ____) Positive Y/N High Risk Y/N

Echocardiogram EF ____ % LV Function: _____

Valves: _____



HEART FAILURE DISCHARGE SUMMARY


MEDICATION PRESCRIPTIONS

✓	Class	Indication	Specific Rx	Dose (mg) & Frequency	Amount	Refills
	Nitroglycerin SL	Angina treatment				
	ASA	Blood thinner				
	Plavix	Blood thinner				
	β-blocker	<input type="radio"/> Angina <input type="radio"/> LV function/prognosis				
	Nitrate	Angina prevention				
	Calcium blocker	<input type="radio"/> Angina <input type="radio"/> HTN				
	Digoxin	<input type="radio"/> Atrial fib <input type="radio"/> CHF				
	Diuretic 1	Fluid retention				
	Diuretic 2	Fluid retention				
	Diuretic 3	Fluid retention				
	ACE inhibitor	LV function/prognosis				
	A-II antagonist	LV function/prognosis				
	Statin	Cholesterol lowering				
	Fibrate	Cholesterol lowering				
	Niacin	Cholesterol lowering				
	Ezetimibe	Cholesterol lowering				
	Anti-platelet	Blood thinner				
	Coumadin	Blood thinner				
	Anti-arrhythmic	<input type="radio"/> Atrial fib <input type="radio"/> VT				
	Oral Hypoglycemic	Blood sugar control				
	Oral Hypoglycemic	Blood sugar control				
	Oral Hypoglycemic	Blood sugar control				
	Insulin AM	Blood sugar control				
	Insulin PM	Blood sugar control				
	Other:					
Signature (physician)		Name printed		CPSO #:	Phone #:	


Supplementary Prescriptions/Discharge Rx:

✓	Rx	Indication	Specific Rx	Dose (mg) & Frequency	Amount	Refills
Signature (physician)		Name printed		CPSO #:	Phone #:	

GUIDE FOR HEART FAILURE (HF) MANAGEMENT

✓	Approach	Reccomendations
	Symptoms & Signs of HF:	Fatigue (low cardiac out-put), SOB, ↑ JVP, rales, S3, edema, radiologic congestion, cardiomegaly. Elevated BNP. CXR to r/o infection, interstitial lung disease & PPH (Primary Pulmonary Hypertension)
	Ejection fraction (echocardiogram, LV gated study, CT angiogram or MRI)	<p>≤ 40% = systolic dysfunction</p> <p>40-55% = mixed systolic and diastolic dysfunction</p> <p>≥ 55% = diastolic dysfunction - treat underlying disorder:</p> <p>HPT/ischaemia/pericardial constriction/restrictive CM (cardiomyopathy)/infiltrative disorders</p>
	Consider etiology	<p>○ Ischemic-CM ○ HPT-CM ○ Valvular HD-CM (AS/AR/MR)</p> <p>○ Metabolic: hyper/hypo-thyroidism/hemochromatosis/pheochromocytoma</p> <p>○ Toxins: Alcohol/anthracyclines/cocaine/trastuzumab/amphetamines and other chemotherapy ○ Viral CM ○ Idiopathic Dilated CM</p>
	Identify triggers	
	Acute-sudden onset	Ischaemia, arrhythmia, infection, pulmonary embolism, acute valvular pathology
	Chronic-gradual onset	Anemia, thyrotoxicosis, non-compliance, diet, Rx e.g. NSAID's
	Treatment:	Correct triggers and precipitants of acute and chronic Heart Failure
	General measures	<ul style="list-style-type: none"> • Low sodium diet/protein nutrition • Regular exercise/activity • D/C smoking • Control hypertension • Treat and control diabetes • Identify & Rx depression • Treat lipid abnormalities • Tx ischemia:PCI,CABG/Valve Sx
	<p>Symptomatic therapy</p> <p>Goals: ↓ symptoms</p> <p>↑ Quality of Life</p>	<p>Diuretics - titrate to euvolemic state</p> <ul style="list-style-type: none"> • Maintain Ideal Body Weight (dry weight = JVP normal/trace pedal edema) • Furosemide 20 mg – 80 mg OD-BID • HCT/Zaroxolyn for refractory congestion
	<p>Therapy to:</p> <ul style="list-style-type: none"> • Improve prognosis <p></p> <ul style="list-style-type: none"> • Prevent progressive LV dysfunction 	<p>ACE Inhibitors-General Guideline:</p> <p>Start low and titrate to the target dose used in the clinical trials or the MAXIMUM TOLERATED DOSE:</p> <ul style="list-style-type: none"> • Captopril 6.25 → 50 mg BID-TID • Enalapril 2.5mg → 10 mg BID† • Ramipril 2.5 mg → 5 mg BID § • Lisinopril 2.5 mg → 30-40 mg OD • Trandolapril 1 → 4 mg OD‡ • *Quinapril 10 mg → 40 mg OD • *Cilazapril 0.5 mg → 10 mg OD • *Fosinopril 5 mg → 40 mg OD • *Perindopril 4 mg → 8 mg OD <p>*No large scale HF outcome trials</p> <p>† SoLVD/X-SoLVD § AIRE / AIREX ‡ TRACE</p> <p>Consider ISDN 5-40mg QID+Hydralazine 10-75mg QID for ACE-I/ARB intolerance VHeFT</p>

GUIDE FOR HEART FAILURE (HF) MANAGEMENT (CONT'D)

✓	Approach	Recommendations
	ARB's	Angiotensin II receptor antagonists (ARB's) <ul style="list-style-type: none"> • ACE-Inhibitors remain first line therapy • ARB's indicated in ACE-I intolerant patients • (CHARM candesartan 16-32 mg OD) (Val-HeFT /VALIANT valsartan 160 mg BID)
	Beta Blockers  Limit β blocker dose in the elderly: Bisoprolol 5 mg daily (CIBIS-ELD) Carvedilol 12.5 mg BID (COLA II)	General Guidelines - Add Beta-blocker* to ACE-inhibitor/diuretic/+/- digoxin in stable Class II-IV CHF/LVEF < 40% (*No outcome data for other beta-blockers) <ul style="list-style-type: none"> • Bisoprolol* 1.25→10 mg OD (CIBIS II Trial) • Carvedilol* 3.125 mg BID→25 mg BID (50 mg BID if weight > 85 kg) • Metoprolol* 12.5 mg BID→75 mg BID (MERIT Trial)
	Aldosterone antagonists <i>Caution: diabetics/renal disease/elderly/ NSAIDs & COX-2 inhibitors</i>	<ul style="list-style-type: none"> • Spironolactone 12.5-25 mg OD added to ACE-inhibitor/diuretic/+/- digoxin in stable Class III-IV CHF/LVEF \leq 35%/CR<220/K<5.0 (RALES Trial) • Epleronone 25-50 mg OD in post MI HF (heart failure) with LVEF \leq 40% (EPHESUS Trial) or 25 mg every 2nd day to 50 mg daily depending on GFR) in Class II HF with LVEF \leq 35% (EMPHASIS Trial). • Follow K/Cr in 3-7 days/↓ furosemide to avoid azotemia)
	DIG Trial: 6%↓ in all cause hospitalization and 8%↓ in HF hospitalization. With Dig level < 0.9 ng/mL – 23%↓ in all cause mortality, 37%↓ in HF mortality and 38%↓ in HF hospitalization.	Digoxin-for persisting symptoms in NSR (systolic dysfunction) or symptoms and rate control in Afib. Dose: 0.125 mg – 0.25 mg OD (Lower dose in elderly or renal failure: 0.0625 mg OD or less frequently) Digoxin used as foundation therapy in major HF Trials (SOLVD 68% on Digoxin; US Carvedilol 90% on digoxin; RALES 72% on Digoxin.)
	Anti-coagulant anti-platelet therapy	ASA if CAD (↓ dose to ↓ ACE inhibitor interaction) Coumadin or NOAC for Afib, LV thrombus, ↓ LVEF \leq 20%, DVT or pulmonary embolism Duration of A/C therapy: Indefinite for Afib/recurring systemic TE or DVT/PE

Consider Internal Medicine/Cardiology or Heart Failure Clinic referral for initiation/titration of β -blocker. Consider EPS referral for symptomatic sustained or non-sustained ventricular arrhythmia (LVEF 30-40%) or AICD: Prior MI/CAD (LVEF \leq 30% with IVCD \geq 0.12 sec: MADIT II) CHF: (NYHA II-III & LVEF <35% SCD-HeFT) Cardiac Resynchronization Therapy(CRT):(NYHA Class III-IV with reduced ejection fractions; LVEF < 35%; QRS duration \geq 0.13 seconds with LBBB or \geq 0.15 seconds with non-LBBB: MIRACLE / MUSTIC) or both CRT/AICD: (NYHA III-IV;QRS \geq 0.12:COMPANION). LVAD/ Transplant for refractory CHF.

Resources

Heart Failure society of America (HFSA): www.hfsa.org/hf_guidelines.asp

ACC/AHA Heart Failure Guidelines: <http://newsroom.heart.org/news/acc-aha-update-guideline-for-management-of-heart-failure>

European Society of Cardiology Guidelines: www.escardio.org/knowledge/guidelines

See also **How to use a Beta Blocker** www.cvtoolbox.com/downloads/chf/How_to_Use_Beta_Blocker.pdf

HEART FAILURE FLOWSHEET

Rx ✓	Date ✓ Achieved	Date ✓ Achieved	Date ✓ Achieved	Date ✓ Achieved	Date ✓ Achieved	Date ✓ Achieved	Date ✓ Achieved
Weight Kg./lbs.							
NYHA Class ¹							
Subjective Symptoms B,W,NC ²							
HR							
BP (S/D)							
↑ JVP (Y/N) ³							
S3 (Y/N) ³							
Rales (Y/N)							
Edema (Y/N)							
ECG							
CXR (Y/N) congestion							
K+ (potassium)							
Creatinine							
Digoxin level							
BNP <100 pg/mL							
ACE-i agent/dose							
ARB agent/dose							
β-blocker agent/dose							
Aldactone/Epleronone							
Digoxin dose (maintain level ≤ 1 nmol/L)							
Diuretic ¹ agent/dose							
Diuretic ² agent/dose							
Nitrate agent/dose							
Hydralazine dose							

¹ Class I: No symptoms with ordinary activity/ Class II: Symptoms with ordinary activity/
Class III: Symptoms with less than ordinary activity/ Class IV: Symptoms at rest

² B = better, W = worse, NC = no change

³ Y = present, N = absent

