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NORTH WESTERN MELBOURNE
An Australian Government Initiative

Updates in heart failure management for GPs

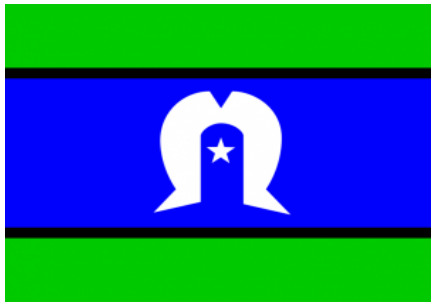
Tuesday 19 August 2025

The content in this session is valid at date of presentation

Acknowledgement of Country

North Western Melbourne Primary Health Network would like to acknowledge the Traditional Custodians of the land on which our work takes place, The Wurundjeri Woi Wurrung People, The Boon Wurrung People and The Wathaurong People.

We pay respects to Elders past, present and emerging as well as pay respects to any Aboriginal and Torres Strait Islander people in the session with us today.



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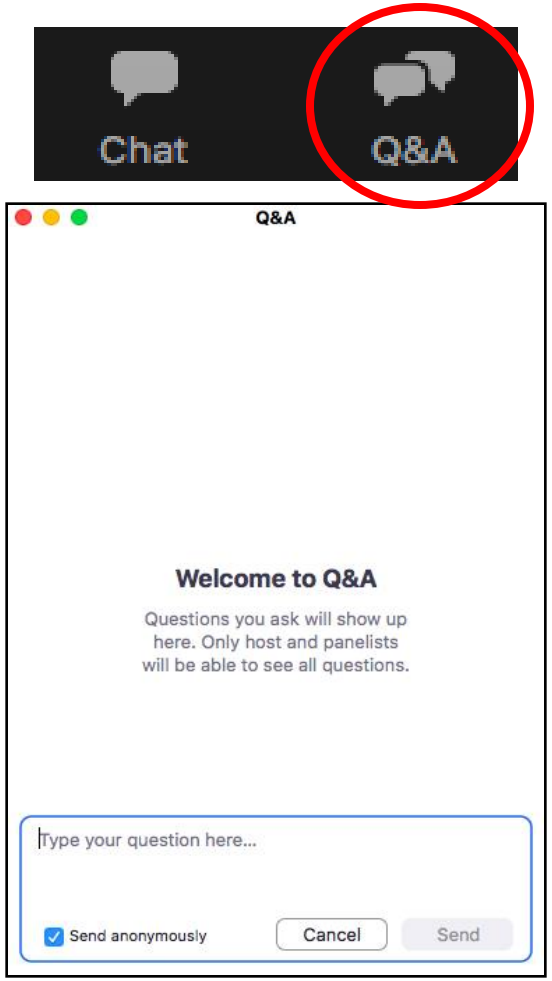
Questions will be asked anonymously to protect your privacy



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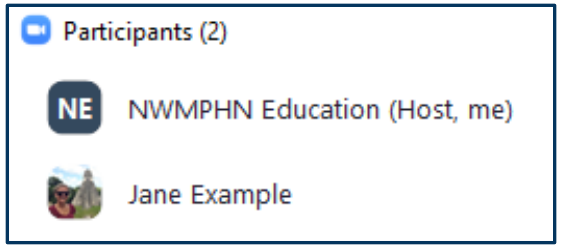

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HealthPathways Melbourne

Updates in Heart Failure management for GPs

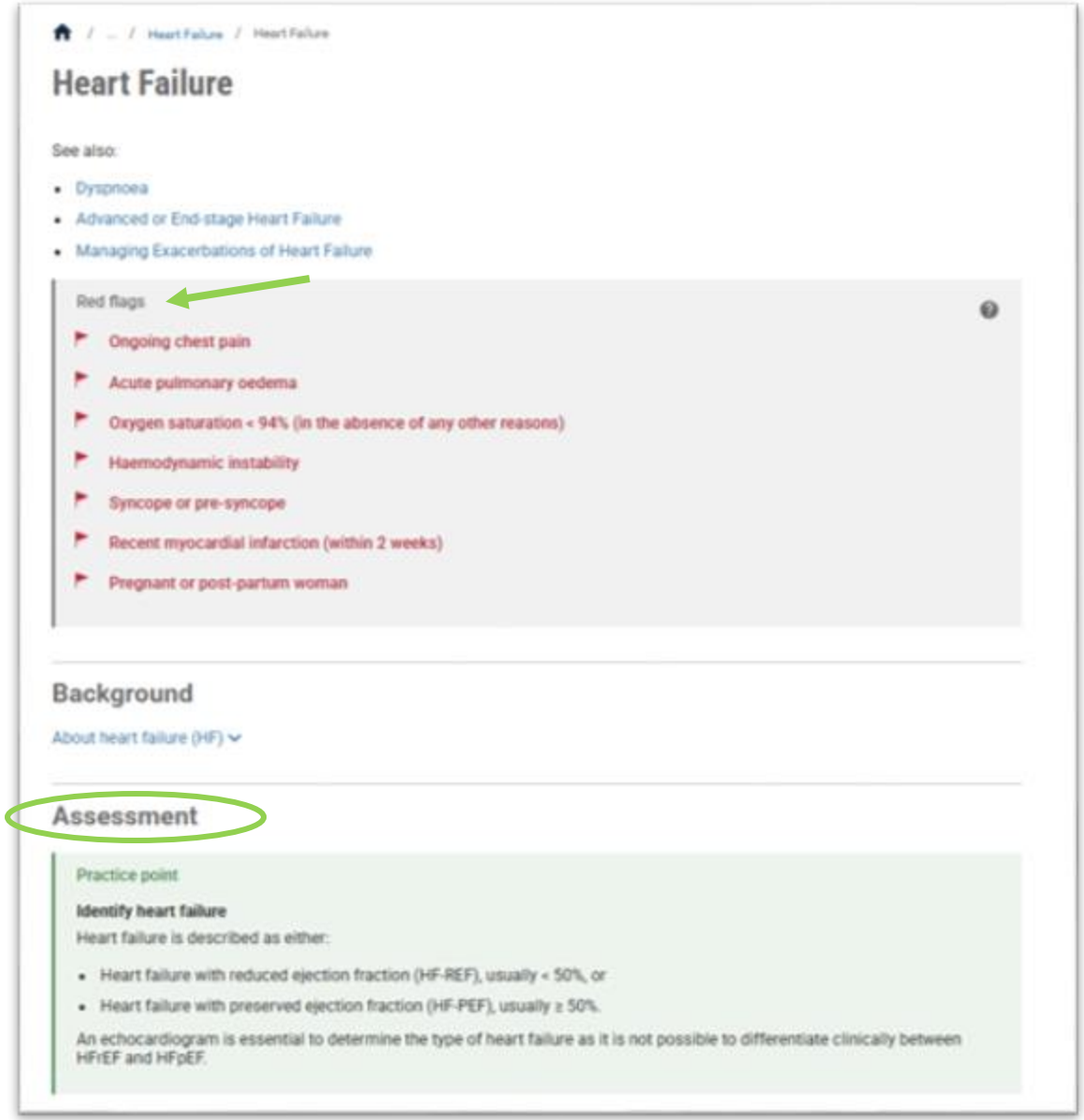
19 August 2025

Pathways are written by GP clinical editors with support from local GPs, hospital-based specialists and other subject matter experts

- clear and concise, evidence-based medical advice
- Reduce variation in care
- how to refer to the most appropriate hospital, community health service or allied health provider.
- what services are available to my patients

HealthPathways- Heart Failure

HealthPathways- Heart Failure



Heart Failure / Heart Failure

Heart Failure

See also:

- Dyspnoea
- Advanced or End-stage Heart Failure
- Managing Exacerbations of Heart Failure

Red flags

- Ongoing chest pain
- Acute pulmonary oedema
- Oxygen saturation < 94% (in the absence of any other reasons)
- Haemodynamic instability
- Syncope or pre-syncope
- Recent myocardial infarction (within 2 weeks)
- Pregnant or post-partum woman

Background

About heart failure (HF)

Assessment

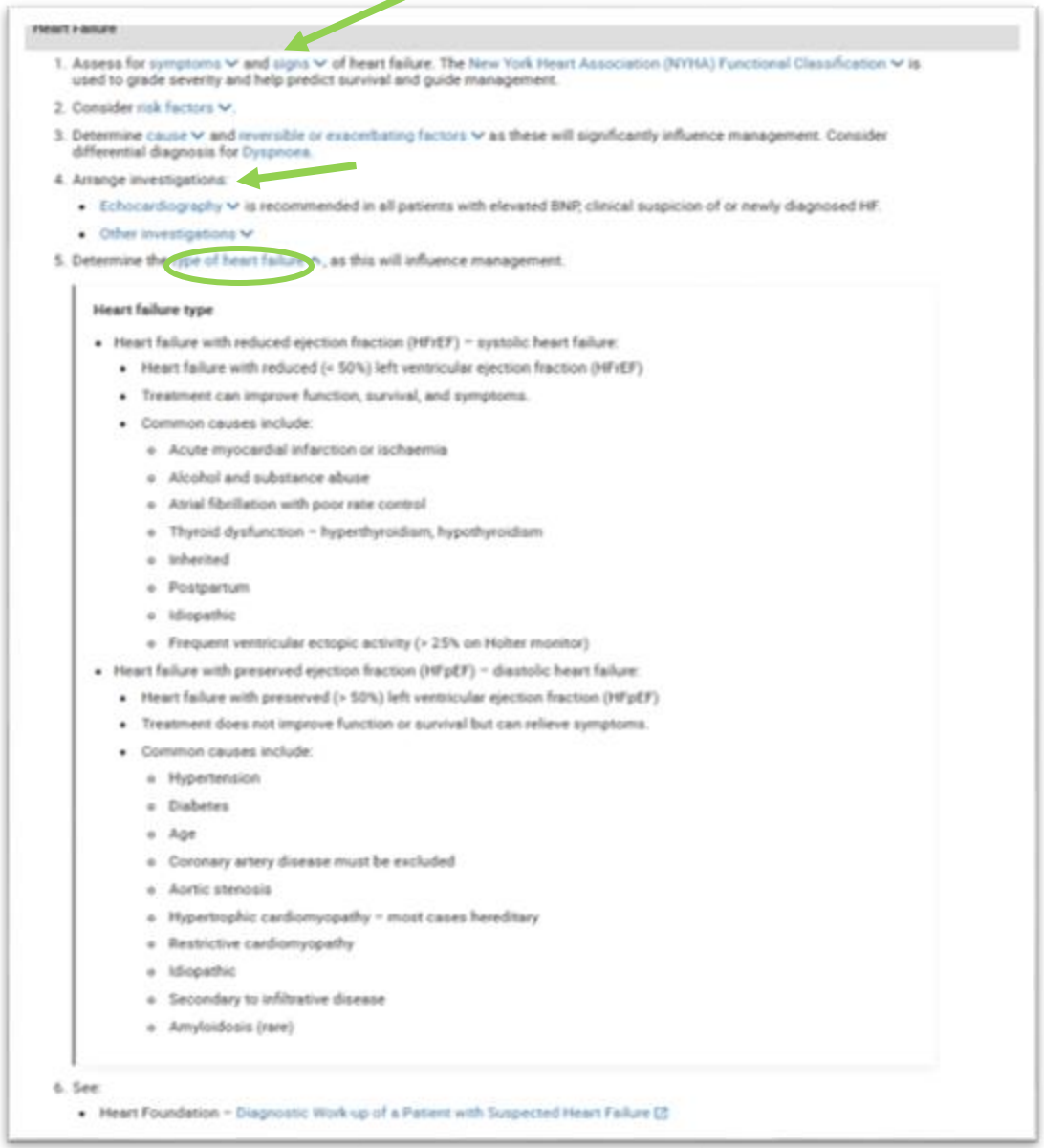
Practice point

Identify heart failure

Heart failure is described as either:

- Heart failure with reduced ejection fraction (HF-REF), usually < 50%, or
- Heart failure with preserved ejection fraction (HF-PEF), usually ≥ 50%.

An echocardiogram is essential to determine the type of heart failure as it is not possible to differentiate clinically between HFrEF and HFpEF.



1. Assess for symptoms and signs of heart failure. The New York Heart Association (NYHA) Functional Classification is used to grade severity and help predict survival and guide management.
2. Consider risk factors.
3. Determine cause and reversible or exacerbating factors as these will significantly influence management. Consider differential diagnosis for Dyspnoea.
4. Arrange investigations:
   - Echocardiography is recommended in all patients with elevated BNP, clinical suspicion of or newly diagnosed HF.
   - Other investigations
5. Determine the type of heart failure, as this will influence management.

Heart failure type

- Heart failure with reduced ejection fraction (HFrEF) – systolic heart failure:
  - Heart failure with reduced (< 50%) left ventricular ejection fraction (HFrEF)
  - Treatment can improve function, survival, and symptoms.
  - Common causes include:
    - Acute myocardial infarction or ischaemia
    - Alcohol and substance abuse
    - Atrial fibrillation with poor rate control
    - Thyroid dysfunction – hyperthyroidism, hypothyroidism
    - Inherited
    - Postpartum
    - Idiopathic
    - Frequent ventricular ectopic activity (> 25% on Holter monitor)
- Heart failure with preserved ejection fraction (HFpEF) – diastolic heart failure:
  - Heart failure with preserved (> 50%) left ventricular ejection fraction (HFpEF)
  - Treatment does not improve function or survival but can relieve symptoms.
  - Common causes include:
    - Hypertension
    - Diabetes
    - Age
    - Coronary artery disease must be excluded
    - Aortic stenosis
    - Hypertrophic cardiomyopathy – most cases hereditary
    - Restrictive cardiomyopathy
    - Idiopathic
    - Secondary to infiltrative disease
    - Amyloidosis (rare)

6. See:
   - Heart Foundation – Diagnostic Work-up of a Patient with Suspected Heart Failure

HealthPathways- Heart Failure

Management

Manage according to heart failure stage and type. Consider Nurse-led self-management support:

Prevention of heart failure

Initial heart failure management

1. If red flags in a patient with suspected heart failure, or new heart failure that has not responded to initial and escalated treatment with diuretic therapy, arrange acute cardiology referral or admission for management.
2. Refer for non-acute cardiology assessment if:
   - known heart failure with symptoms unresponsive to medical management e.g., symptoms at rest, or on minimal exertion.
   - new onset heart failure with reduced ejection fraction < 50% (HF-rEF) and structural or valvular heart disease.
   - new onset heart failure with preserved ejection fraction (HF-pEF) that has failed maximum tolerated diuretic treatment.
3. Consider a cardiology assessment for all patients newly diagnosed with heart failure. These patients may be suitable for advanced treatments, unless they have multiple co-morbidities. The specialist will also manage any heart failure with co-existent or causative valvular disease.
4. If possible, withdraw any medications which can contribute to the heart failure.
5. In the majority of patients with symptomatic heart failure, start a diuretic to reduce fluid overload and review regularly. Aim to establish a goal (dry) weight.
6. Consider starting all hypertensive patients on an ACE inhibitor (ACEI)
7. If unable to tolerate an ACE inhibitor (ACEIs), consider starting an angiotensin 2 receptor antagonists (A2RAs/ARBs). A2RAs/ARBs improve survival in heart failure with reduced ejection fraction.
8. Then manage according to heart failure type:

   Heart failure with reduced ejection fraction (HFrEF) EF < 50% (systolic heart failure)

   Heart failure with preserved ejection fraction (HFpEF) EF > 50% (diastolic heart failure)

See NICE – Chronic Heart Failure: Management.

Ongoing management

Exacerbation management

Management following discharge

ACE inhibitors (ACEI)

- Helps with LV re-modelling.
- Improves morbidity and mortality.
- Start at low dose. Refer to table.
- It is important to titrate to highest tolerated dose over 2 to 3 weeks.

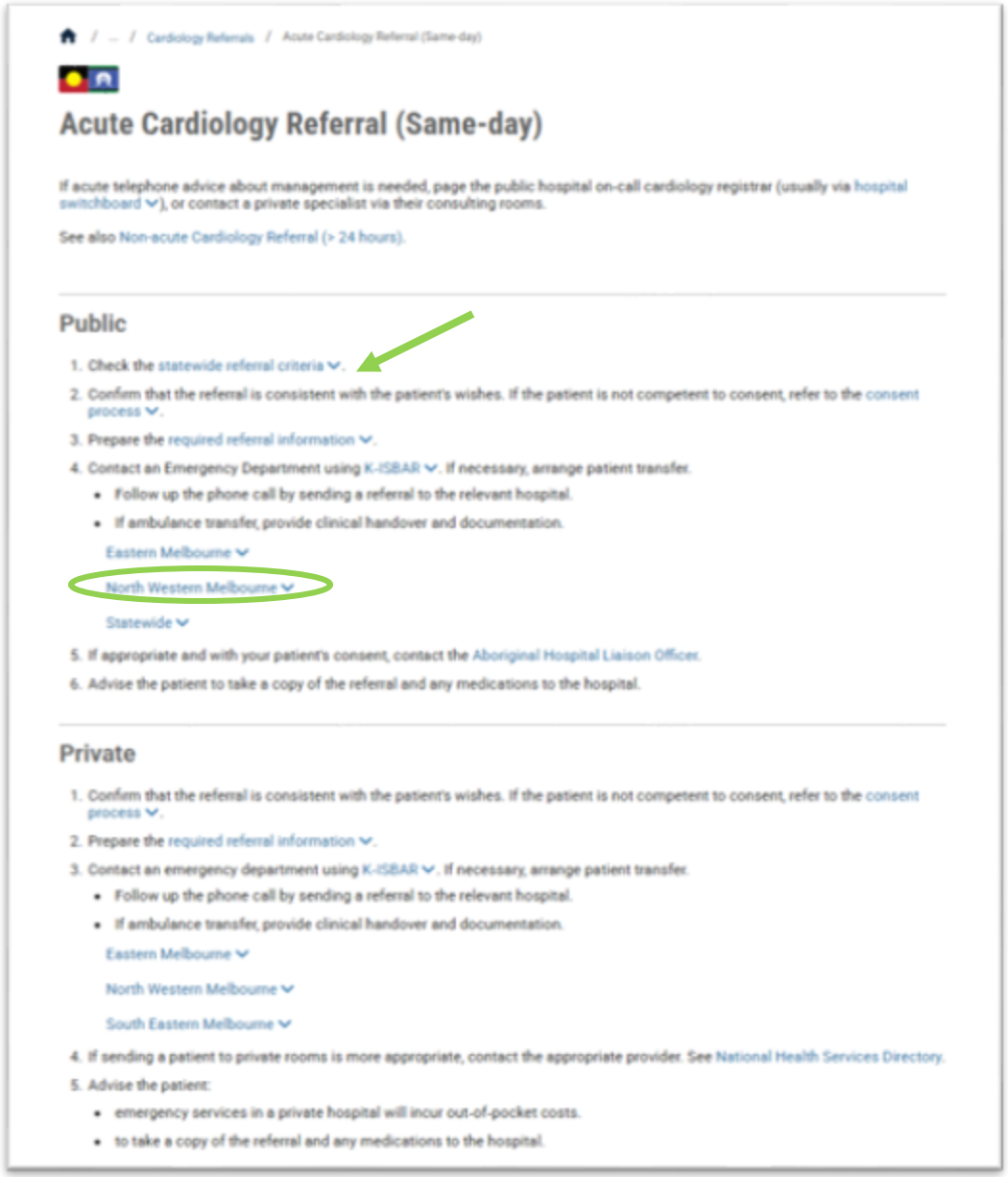
Target doses of ACE inhibitors in heart failure

Medication	Starting dose	Target maintenance dose
Captopril	6.25 mg three times daily	25 mg three times daily
Enalapril	2.5 mg daily	20 mg twice daily
Fosinopril	5 to 10 mg daily	20 mg daily*
Lisinopril	2.5 mg daily	30 mg daily
Perindopril arginine	2.5 mg daily	10 mg daily*
Quinapril	5 mg daily	20 to 40 mg daily
Ramipril	2.5 mg daily	10 mg daily
Trandolapril	1 mg daily	4 mg daily

* No evidence but class effect

- See weekly while titrating and monitor blood pressure, potassium, and creatinine. 25 to 30% rise in creatinine is acceptable.
- If estimated glomerular filtration rate (eGFR) drop is > 30%, consider renal artery stenosis.
- Be cautious if eGFR is < 30.
- Night-time dosing reduces daytime hypotension.
- Risk of first dose hypotension is increased if systolic blood pressure < 90 mmHg.
- Adjust dose for renal impairment and in the elderly.
- Contraindications:
  - Potassium > 5.5 mmol/L
  - Creatinine > 250 micromoles/L
  - Symptomatic hypotension
  - Systolic blood pressure < 80 mm Hg
  - Angioedema
  - Pregnancy

HealthPathways- Heart Failure



Cardiology Referrals / Acute Cardiology Referral (Same-day)

Acute Cardiology Referral (Same-day)

If acute telephone advice about management is needed, page the public hospital on-call cardiology registrar (usually via hospital switchboard), or contact a private specialist via their consulting rooms.

See also Non-acute Cardiology Referral (> 24 hours).

Public

1. Check the statewide referral criteria.
2. Confirm that the referral is consistent with the patient's wishes. If the patient is not competent to consent, refer to the consent process.
3. Prepare the required referral information.
4. Contact an Emergency Department using K-ISBAR. If necessary, arrange patient transfer.
   - Follow up the phone call by sending a referral to the relevant hospital.
   - If ambulance transfer, provide clinical handover and documentation.

   Eastern Melbourne

   North Western Melbourne

   Statewide
5. If appropriate and with your patient's consent, contact the Aboriginal Hospital Liaison Officer.
6. Advise the patient to take a copy of the referral and any medications to the hospital.

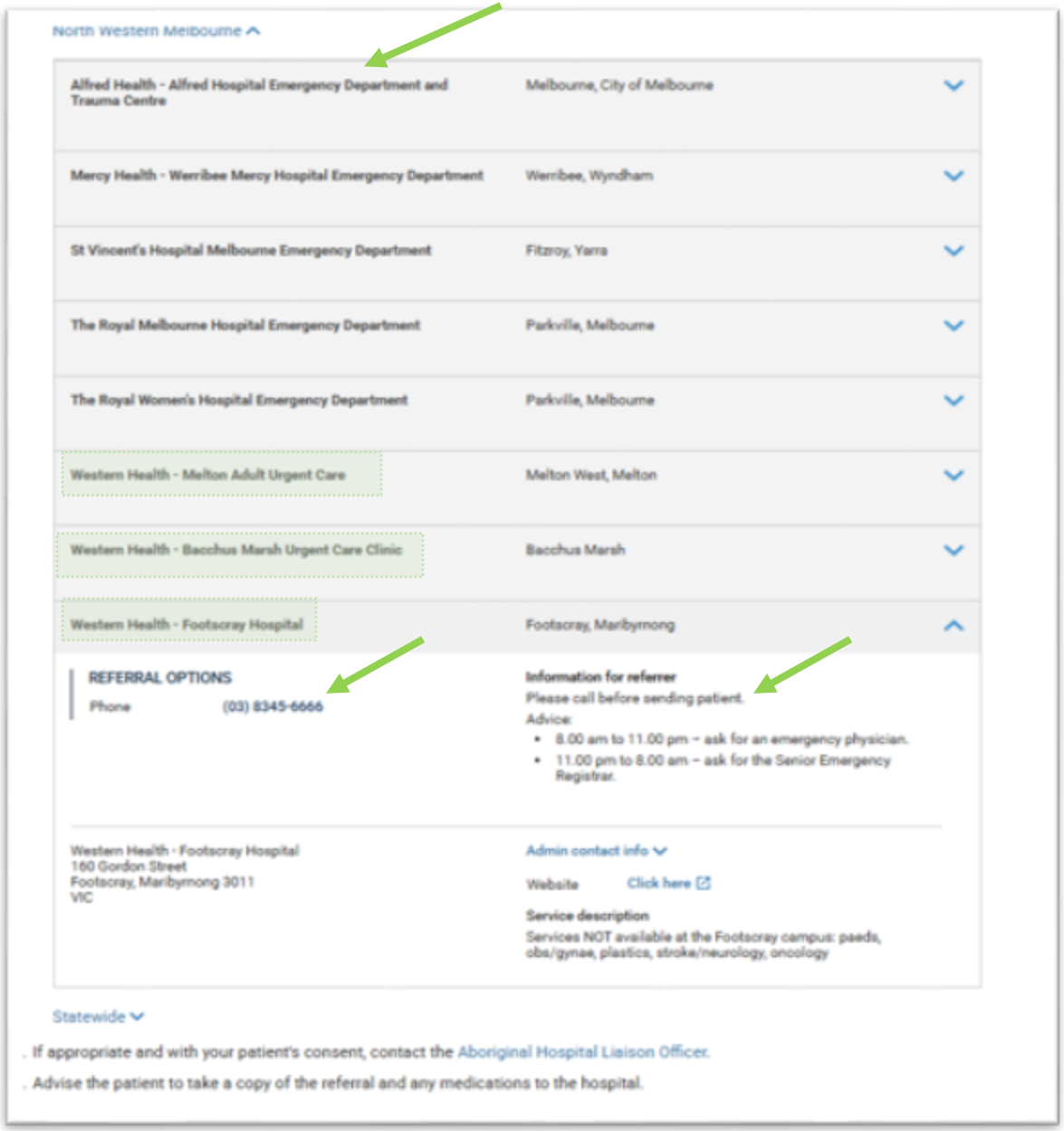
Private

1. Confirm that the referral is consistent with the patient's wishes. If the patient is not competent to consent, refer to the consent process.
2. Prepare the required referral information.
3. Contact an emergency department using K-ISBAR. If necessary, arrange patient transfer.
   - Follow up the phone call by sending a referral to the relevant hospital.
   - If ambulance transfer, provide clinical handover and documentation.

   Eastern Melbourne

   North Western Melbourne

   South Eastern Melbourne
4. If sending a patient to private rooms is more appropriate, contact the appropriate provider. See National Health Services Directory.
5. Advise the patient:
   - emergency services in a private hospital will incur out-of-pocket costs.
   - to take a copy of the referral and any medications to the hospital.



North Western Melbourne

Alfred Health - Alfred Hospital Emergency Department and Trauma Centre	Melbourne, City of Melbourne
Mercy Health - Werribee Mercy Hospital Emergency Department	Werribee, Wyndham
St Vincent's Hospital Melbourne Emergency Department	Fitzroy, Yarra
The Royal Melbourne Hospital Emergency Department	Parkville, Melbourne
The Royal Women's Hospital Emergency Department	Parkville, Melbourne
Western Health - Melton Adult Urgent Care	Melton West, Melton
Western Health - Bacchus Marsh Urgent Care Clinic	Bacchus Marsh
Western Health - Footscray Hospital	Footscray, Maribyrnong

REFERRAL OPTIONS

Phone (03) 8345-6666

Information for referrer

Please call before sending patient.

Advice:

- 8.00 am to 11.00 pm – ask for an emergency physician.
- 11.00 pm to 8.00 am – ask for the Senior Emergency Registrar.

Western Health - Footscray Hospital
160 Gordon Street
Footscray, Maribyrnong 3011
VIC

Admin contact info

Website Click here

Service description

Services NOT available at the Footscray campus: paeds, obs/gynae, plastics, stroke/neurology, oncology

Statewide

. If appropriate and with your patient's consent, contact the Aboriginal Hospital Liaison Officer.

. Advise the patient to take a copy of the referral and any medications to the hospital.

Relevant and Related Pathways

Relevant pathways

Heart Failure

Advanced or End-stage Heart Failure

Managing Exacerbations of Heart Failure

Acute Chest Pain

Related pathways

Atrial Fibrillation (AF)

Cardiac and Heart Failure Rehabilitation

Dyspnoea

Monitoring of Cardiac Drugs

Cardiovascular Disease (CVD) Risk Assessment

Funny Turns

Chronic Condition Management Items

Health Assessments

Cardiology Investigation Referrals

Acute Cardiology Referral (Same-day)

Non-acute Cardiology Referral (> 24 hours)

Cardiac and Heart Failure Rehabilitation

Echocardiography (Echo)

Lipid Disorders Specialist Referral

HIP – Health Independence Program

Statewide Referral Criteria for Specialist Clinics

CPD Hours for HealthPathways Use

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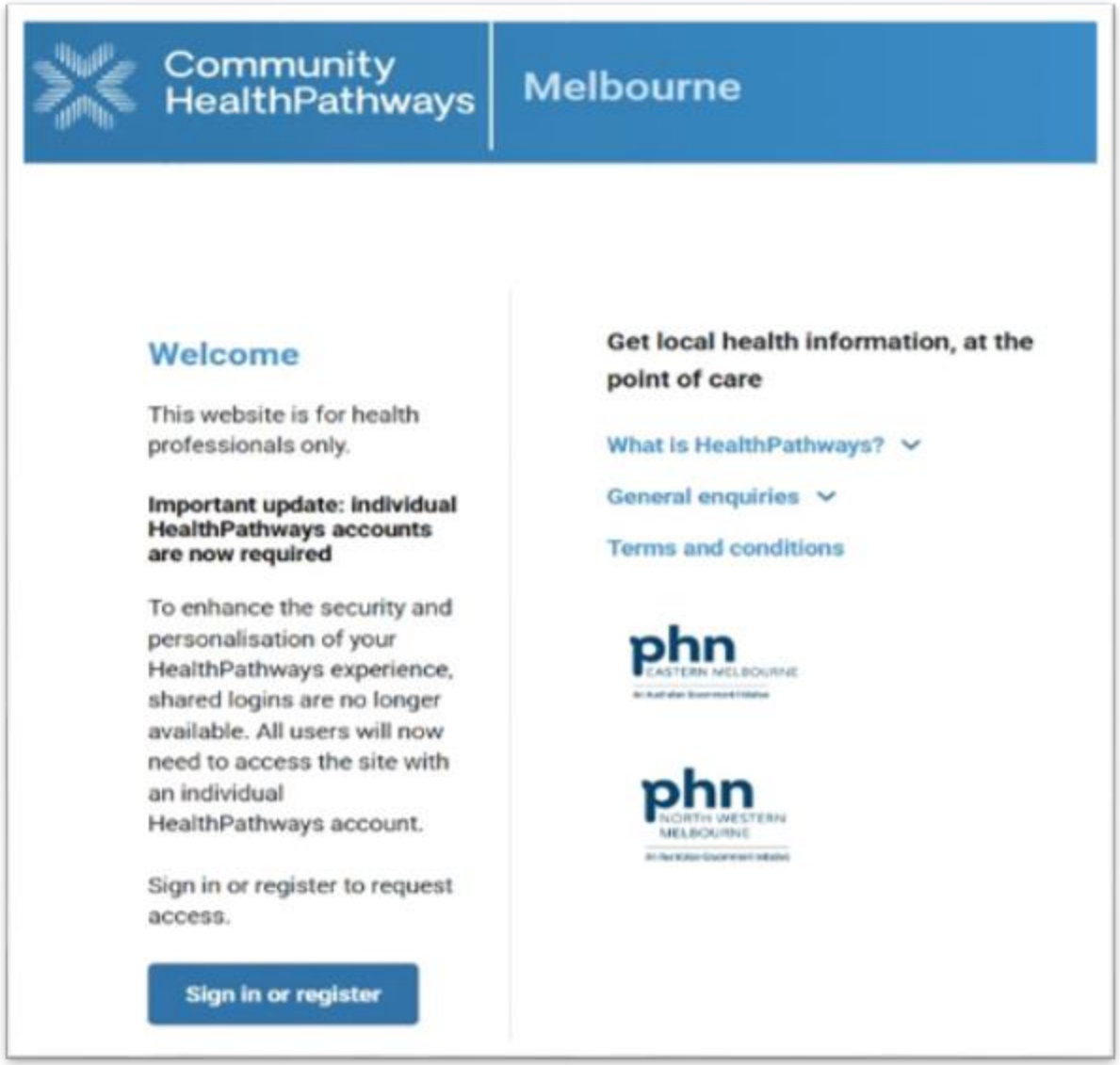

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Speakers

Dr Stav Papapostolou,

Cardiologist and Western Health Heart Failure Clinical Lead Western Health

Dr Stav Papapostolou is a cardiologist and the Head of Heart Failure at Western Health.

Her interests include heart failure management and advanced cardiac imaging, including echocardiography, coronary CT, and transoesophageal echocardiography. Dr Papapostolou completed the majority of her advanced cardiology training at Alfred Health, followed by a non-invasive cardiac imaging fellowship at Monash Health. She also holds a PhD from Alfred Health, where her research focused on novel applications of cardiac MRI

HEART FAILURE MANAGEMENT

Dr Stav Papapostolou
Charis Brown HF NPC

Western Health

AIMS

Western Health

- **Improve understanding of heart failure management**
- **When/how to refer for specialist input**
- **Patient management post hospital discharge**
  - HF medications -safe uptitration post discharge & in between specialist visits.
  - Deprescribing harmful medications
  - Flexible diuretic plans
  - Role of community services, HF nurses, RACER clinic, Cardiac rehab
- **To understand the difference between:**
  - Heart Failure with Reduced Ejection fraction (HFrEF) and
  - Heart Failure with Preserved Ejection Fraction (HFpEF)
    - The different medications/management strategies used.
  - Treatment of comorbidities that worsen HF (OSA, obesity, AF etc)

OUTLINE

Western Health

- What is Heart Failure
- Causes and precipitants of Heart Failure
- How to diagnose Heart Failure
- Management post discharge
- Uptitration of therapy
- Treatment of comorbidities, Fe deficiency, vaccinations
- Referral to Community services
- Referral to Cardiology
- SAFE-HF Project

What is Heart Failure?

Western Health

- Definition:
- A complex clinical syndrome with symptoms and signs that result from any structural or functional impairment of:
  - Ventricular ejection of blood (systolic dysfunction)
  - Or ventricular filling (diastolic dysfunction)
- The heart (either due to systolic or diastolic dysfunction) is unable to pump enough blood to meet the body's demands while maintaining normal LV filling pressures
  - Usually a combination of systolic and diastolic dysfunction co-exists

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Why is Heart Failure Important?

- Very common
  - Becoming more common given our ageing population
- Carries high rate of morbidity, mortality, and risk of hospital re-admissions.
  - The risk of readmission is ~25% in the first 30 days post hospitalisation.
- Carries a poorer long-term prognosis than many cancers
- Institution of appropriate guideline-directed medical therapy has been shown to:
  - Reduce hospitalisation
  - Improve morbidity
  - Improve mortality.

Different ways of classifying HF

- HFrEF:
  - EF ≤40%
    - GDMT to improve morbidity and mortality
- HFmrEF
  - EF 40-50%
    - less evidence for GDMT
    - Similar to the HFrEF gp (vs HFpEF) in terms of phenotype and Mx
- HFpEF:
  - "stiff' heart muscle (previously 'diastolic heart failure')
  - This term refers to a particular clinical syndrome where:
    - EF ≥50%, elevated LV filling pressures (at rest or with stress) AND there **MUST be Sx/Signs of HF**
    - Tx: decongestion and controlling contributing factors.
    - Minimal evidence for mortality benefit with medications

Other causes of Heart Failure

- Valve disease
- Ischaemia
- Tachy/brady arrythmias
- Cardiomyopathies:
  - Infiltrative – eg amyloid
  - Restrictive
  - Hypertrophic
  - Non-compaction, ARVC
  - Chemotherapy related

Western Health

Precipitants of ADHF

- M - MI
- A - Arrhythmia
- D – Drug/Fluid non-compliance
- H - HTN
- A - Anaemia
- T - Thyrotoxicosis
- T – Temperature/infection
- E – Ethanol/Amphetamines
  - Drugs: Chemo, NSAIDS, verapamil, Diltiazem
- R – Renal Failure
- S - Sick Sinus/Sleep apnoea

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Diagnosing Heart Failure

- History
  - LHF: SOBOE, fatigue, cough, orthopnea, PND, weight gain due to fluid retention
  - RHF: SOBOE, peripheral oedema, ascites, loss of appetite, nausea
  - HFpEF: SOBOE
- Examination
  - JVP
  - Lungs: Crackles, effusions
  - HS: murmurs
  - Peripheral oedema/ascites
  - Are they adequately perfused? Or cool and shut down -> urgent referral to ED

Western Health

Diagnosing Heart Failure: Ix

- ECG:
  - LBBB
  - May elude to cause:
    - Ischaemic changes, arrhythmia/AF etc
- Bloods
  - Precipitating factors: Hb, TFTs, Inflammatory markers, Troponins, ECG, Iron studies
- BNP may be useful
  - If low, makes HF less likely
  - Can be:
    - reduced in obesity
    - elevated in: sepsis, CKD, liver failure etc
- CXR: cardiomegaly, overload
- TTE
  - Systolic dysfunction
  - Diastolic function/left atrial pressure
  - Valve abnormalities
  - RWMA
- Exclude ischaemia
- Investigate for causes/precipitants
- **Refer to HF clinic**

Western Health

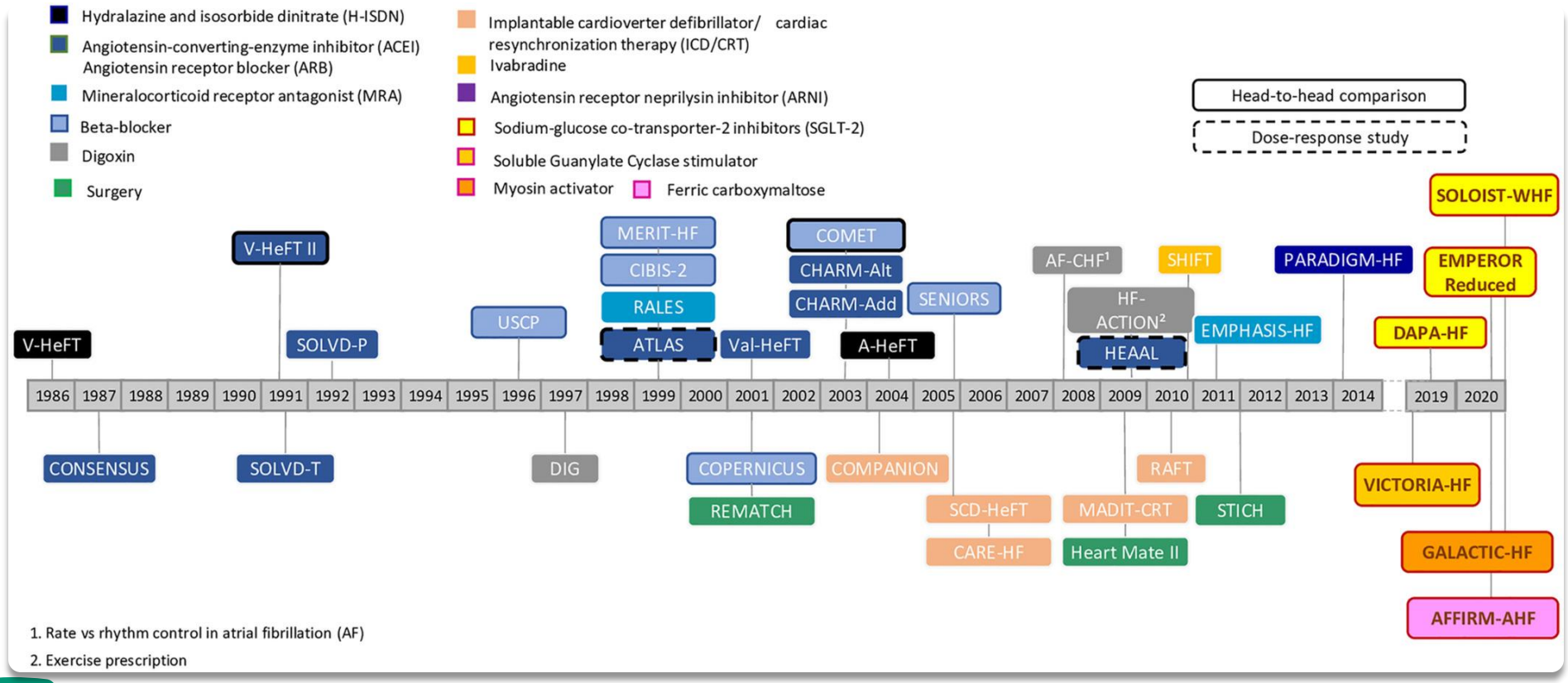
Treatment of ADHF in Hospital

- Treatment (ADHF)
  - Decongestion (FR, weighs, Lasix), aiming 1L neg per day
  - Treat precipitant
    - Eg MI, arrhythmia, infection etc
    - Investigate and rule out ischaemia: angiogram or CTCA
    - Treat Iron deficiency
    - Refer to cardiac rehab
    - Education with Heart Failure nurse
  - Start GDMT
    - HFrEF:
      - ARNi/ACEI/ARBS, BB, MRA, SGLT2i
      - Start BB when euvolaemic – particularly in new severely reduced LVEF
    - HFmrEF – ACEi/ARBs, MRA
    - HFpEF – Tx comorbidities and decongestion is main focus
      - SGLT2i, MRA

Post Discharge Treatment

- Early review
  - Within 7 days with GP is recommended for:
    - Fluid review
    - UEC
    - Early uptitration of meds (Guided by BP/HR and UEC)
  - RACER clinic
    - However sometimes unable to accommodate all patients or within the 7 days
  - UPtitrate GDMT
    - HFrEF:
      - ARNi/ACEI/ARBS, BB, MRA, SGLT2i
      - **Avoid starting BB until euvolaemic**
    - HFmrEF – ACEi/ARBS, MRA
    - HFpEF – Tx comorbidities and decongestion is main focus

Heart Failure Trials



ESC Heart Failure, Volume: 7, Issue: 6, Pages: 3505-3530, First published: 05 December 2020, DOI: (10.1002/ehf2.13124)

Western Health

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HFrEF specific medications

- 4 classes of drugs shown to reduced mortality
  - ARNi/ACEI/ARBS, BB, MRA, SGLT2i
  - Other medications (do not reduce mortality):
    - Frusemide as needed – no mortality benefit
    - Digoxin – no mortality benefit (decrease hospitalisations)
    - Others: Ivabradine, Nitrates
- Patient's individual circumstances should be taken into consideration when prescribing
- Cautious introduction of meds (esp in new severe HF)
  - Be particularly careful in those with newly diagnosed, severely reduced LVEF, may not tolerate much due to hypotension
  - Avoid Beta blockers until eurolaemic
- Up-titrate 1 at a time

HFrEF Group 1: ARNi/ACEi/ARBs

- Choose only **ONE** of the following 3 groups
- **ARNi** (**Angiotensin receptor neprilysin inhibitor)**
  - Sacubitril/Valsartan (Entresto)
- **ACE-Inhibitors**
  - Perindopril
  - Ramipril
- **Angiotensin Receptor antagonists**
  - Candersartan
  - Valsartan

Western Health

Groups 1: ARNi – Entresto

- For those with EF ≤40%
- 36 hrs washout period between stopping ACE-I/ARB & starting ARNi
- PARADIGM-HF and PIONEER:
  - Benefit over enalapril
  - Decreased mortality & hospitalisations

- Can start 1st up, or change over from ACE-I/ARB (with 36hr washout)
- May cause more symptomatic hypotension than ACEi/ARB
- Can start if:
  - BP >100mmHg
  - No dizziness
  - GFR >30ml/min, K≤ 5mmol/L
- Starting dose 24/25mg bd
- Middle dose: 49/51mg bd
- Target dose 97/103 mg bd

Groups 1a: ARNi – Entresto

- To qualify on PBS:
  - EF 40% or less
  - NYHA Class II or more
  - Can not be on ACEI or ARB at same time
  - Must receive concomitant HF therapy
- Note:
  - Mild diuretic effect
    - May need to dose adjust diuretics
  - Can not use if prior angioedema to ACEI/ARBs

- **When uptitrating**
  - Ensure stable on current dose for 2/52
  - Check UEC (1-2/52 post)
  - SBP remains >100mHg
  - K <5mmol/l
  - Cr not risen by > 25%

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Groups 1a: ARNi – Entresto

- In new/severe HFrEF
  - Might start Valsartan
    - Eg 40 mg daily
  - At initial diagnosis, with view to changing to Entresto if BP tolerates in a couple weeks avoiding the need for washout period of ACEI

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HFrEF Group 1b: ACEi

- Eg Ramipril and Perindopril
- Starting doses
  - 1.25mg or 2.5mg daily
- Target dose
  - 10mg daily

- **Uptitrating guidelines**
  - Ensure SBP > 100mmHg
  - No dizziness
  - K < 5
  - GFR > 30ml/min
  - Cr not risen by >25%
  - Recheck UEC, BP and fluid review 1-2 weeks later

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HFrEF Group 1c: ARB

- Eg:
  - Candersartan
    - Starting dose 2 or 4mg/day
    - Target 32mg/day
  - Valsartan
    - Starting dose 40mg bd
    - Target 160mg bd

- **Uptitration guidelines**
  - Same as ACE-I

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HFrEF Group 2: HF-selective Beta-blockers

- Do not start when acutely decompensated
- Bisoprolol
  - Start 1.25mg/d -> 10mg/d
- Carvedilol
  - Start 3.125mg bd -> 25mg bd
- Metoprolol XL
  - Start 23.75mg/d -> 190mg/d
- Nebivolol
  - Start 1.25mg/d -> 10mg/d

- **Uptitration guidelines:**
  - SBP >100mmHg
  - No dizziness
  - HR remains > 60bpm

Western Health

HFrEF Group 2: HF-selective Beta-blockers

- Choosing between BB
- Bisoprolol
- Carvedilol – BD dosing
  - Has vasodilating properties, might be preferred in some cases eg PVD
  - Fewer metabolic SE
  - AF
- Metoprolol XL
- Nebivolol

- **Uptitration guidelines:**
  - SBP >100mmHg
  - No dizziness
  - HR remains > 60bpm

Western Health

Group 3: Mineralocorticoid antagonists

- Spironolactone
  - Starting 12.5mg/d
  - Target 50mg/day
- Eplerenone
  - Only on PBS for: LVEF <40% in the 1st 3-14 days post AMI

- **Uptitration guidelines:**
  - SBP > 100mmHg
  - K < 5mmol/l
  - GFR > 30ml/min
  - Cr not risen by > 25%
  - Stop if can't maintain K < 5.5mmol/l
  - When uptitrating:
    - Check UEC 1-2 /52 later, then monthly for 1st 3/12, then 6/12 ongoing

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HFrEF Group 4: SGLT2i

- Examples
  - Empagliflozin (Jardiance)
  - Dapagliflozin (Forxiga)
  - Both 10mg/day
- To qualify on PBS
  - NYHA II or worse
  - In addition to: ARNi/ACEi/ARB, BB
- Mild diuretic effect
- Increased risk of genital infections
- Must counsel re withholding on sick days fasting/nausea/vomiting
  - Risk of euglycaemic ketoacidosis
- **Do not start in Type 1 diabetics**

Safe uptitration

- One medication at a time
- Ensure BP > 100mmHg before uptitrating
  - Some may have low BP eg 90mmHg
  - In these people, do not uptitrate
  - However, if feel well with that BP (no presyncope) – don't reduce doses
- Ensure patient tolerated prior dose (no presyncope etc)
- Renal function and K+ stable
- Aim to bring back in 2 weeks to review:
  - UEC, BP, Patient symptoms
  - And further uptitrate if possible

Frusemide

- No mortality benefit
- After acute event, aim to reduce to lowest dose needed to maintain euvolaemia
- Flexible diuretic plans may be useful in those patients who have a good understanding of their illness
  - Eg if weight increases >2kg in 2 days, they may be instructed to increase Frusemide for a **max of 3 days and see GP**
  - Please accommodate for fluid reviews if patients call that weight has increased/symptoms have worsened.

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Western Health

Usual Maintenance Frusemide Dose	New Dose for up to 3 days
Nil	20-40mg daily
40mg total daily	80mg daily (eg 40mg bd)
80mg total daily	120mg daily (eg 80mg mane, 40mg midi)
120mg total daily	160mmg total daily (eg 80mg bd)

Other medications/therapies for HFrEF

- Ivabradine
  - Start 2.5mgbd->7.5mg bd
  - EF 35% or less
  - Already on max ACEi & BB
  - Must be in Sinus with HR > 77bpm
  - Less effect on BP
- Digoxin
- Nitrates

- Devices
  - If EF remains <35% despite 3/12 of treatment
  - ICD vs BiV ICD
  - BIV if SR, QRS long, resynchronisations therapy
- Iron Infusions
  - If T sat < 20% and
  - Ferritin < 100 or between 100-300.
- Vaccinations

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Other things

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- Education
- Daily weighs
  - Know when to seek help
  - Eg weight increases > 1kg/day, 2 days in a row
- Fluid restriction, usually < 1.5L/day
- Low salt diet
- Stay on top of vaccinations
- Replenish Iron stores
- Referral to cardiac rehab – improves education and patient outcomes
- Avoid smoking, illicit drugs
- Treat comorbidities: obesity, AF, OSA, ETOh/Drug abuse etc

Caution in the new Dx severe HFrEF

- Eg EF ~20%
- Hypotension
- Tachycardia

Medications that may worsen HF

- NSAIDs
- COX-2 inhibitors
- Centrally acting calcium channel blockers
  - Verapamil, Diltiazem
- Steroids
- TCAs
- Gliptins
- Moxonidine
- Thiazolidinediones (glitazones)

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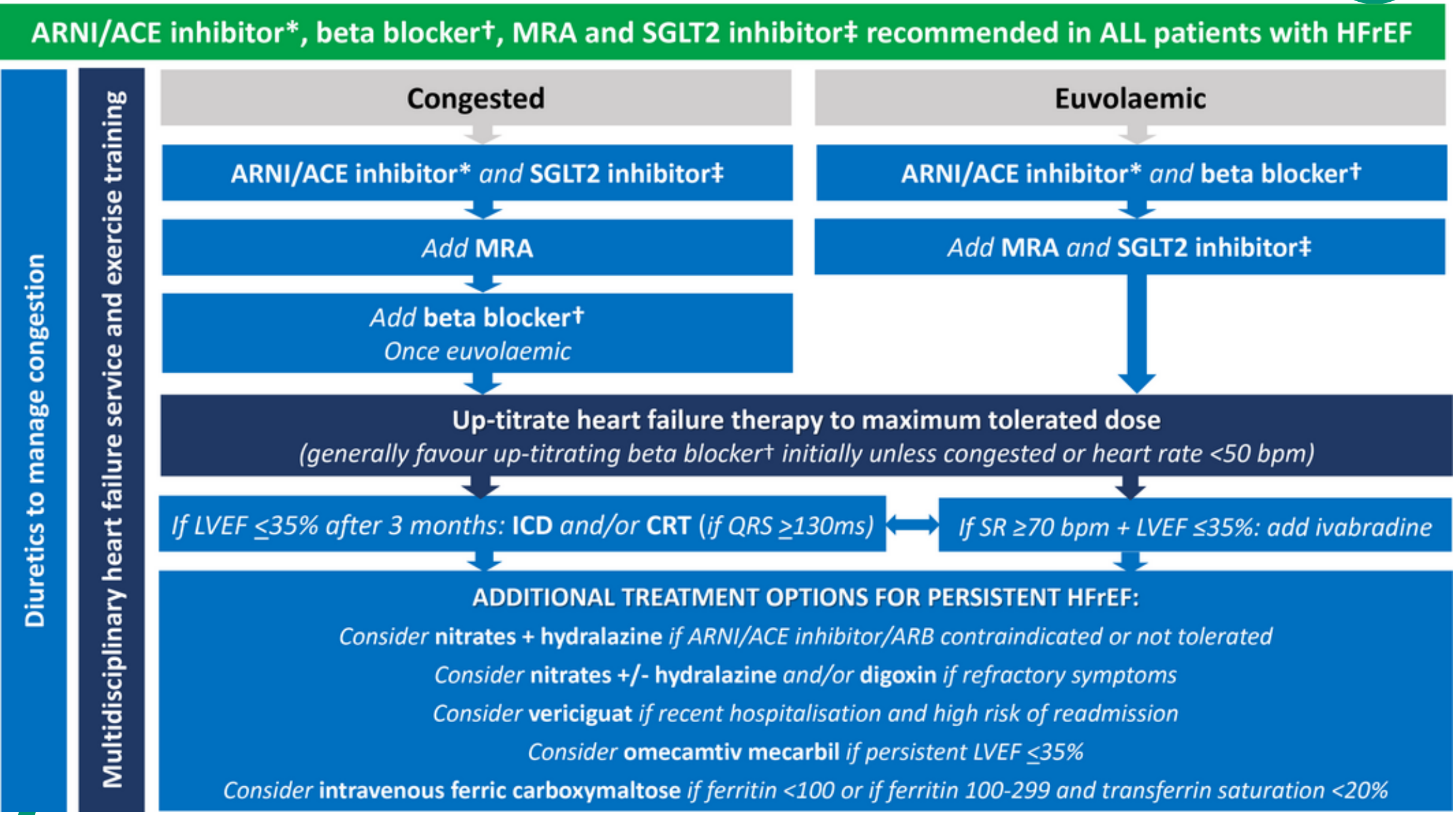
ARNI/ACE inhibitor*, beta blocker†, MRA and SGLT2 inhibitor‡ recommended in ALL patients with HFrEF
Diuretics to manage congestion
Multidisciplinary heart failure service and exercise training
Congested
Euvolaemic
ARNI/ACE inhibitor* and SGLT2 inhibitor‡
ARNI/ACE inhibitor* and beta blocker†
Add MRA
Add MRA and SGLT2 inhibitor‡
Add beta blocker†
Once euvolaemic
Up-titrate heart failure therapy to maximum tolerated dose
(generally favour up-titrating beta blocker† initially unless congested or heart rate <50 bpm)
If LVEF ≤35% after 3 months: ICD and/or CRT (if QRS ≥130ms)
If SR ≥70 bpm + LVEF ≤35%: add ivabradine
ADDITIONAL TREATMENT OPTIONS FOR PERSISTENT HFrEF:
Consider nitrates + hydralazine if ARNI/ACE inhibitor/ARB contraindicated or not tolerated
Consider nitrates +/- hydralazine and/or digoxin if refractory symptoms
Consider vericiguat if recent hospitalisation and high risk of readmission
Consider omecamtiv mecarbil if persistent LVEF ≤35%
Consider intravenous ferric carboxymaltose if ferritin <100 or if ferritin 100-299 and transferrin saturation <20%

HFimpEF

- In some, with treatment, EF may improve to >40% or to entirely normal levels, eg >55%.
- We usually still continue medications
- 50% relapse with medication cessation
- If medications are reduced must carefully monitor:
  - Symptoms
  - EF

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HFmrEF, EF 40-50%

- ACEI/ARB
- BB
- MRA

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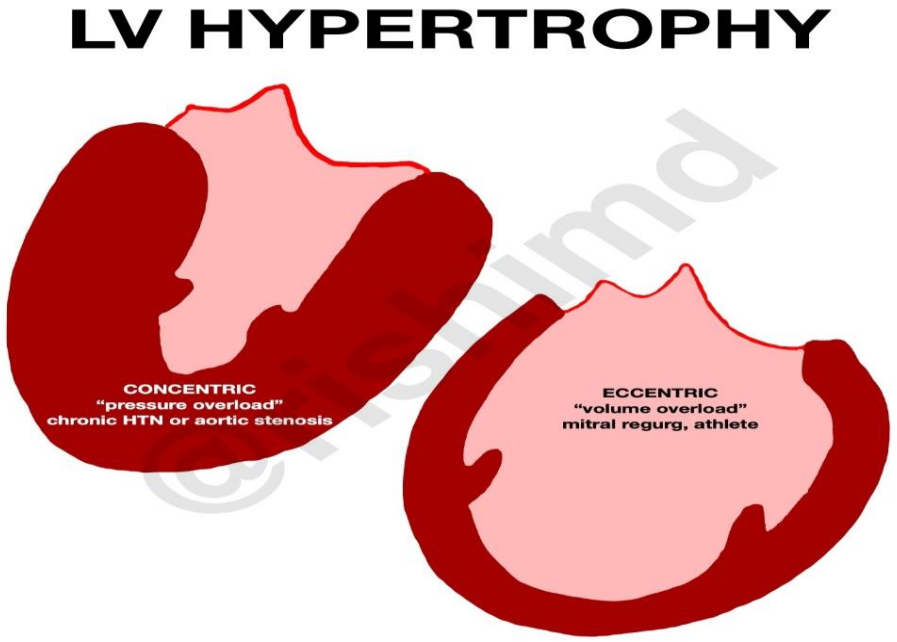
Differences between HFrEF & HFpEF

- **HFpEF**
  - Normal EF (> 50%)
  - concentric remodelling
    - (increased relative wall thickness)
  - normal LV end-diastolic volumes
- Diastolic dysfunction
  - Dilated LA (chronically elevated LA pressure)
    - <5% have normal atria
  - Elevated left atrial pressure
    - Eg elevated E/e'
  - Elevated PASP
    - These pressures may be normal with rest, BUT abnormal with exercise

- **HFrEF**
  - Reduced EF (<40%)
  - Eccentric hypertrophy
    - Normal relative wall thickness with
    - Dilated LV



HFpEF

- Challenging to Dx
- Is a **syndrome**
  Characterised by:
  - Symptoms and signs of HF
  - In a patient with normal LV EF
  - And diastolic dysfunction with elevated filling pressures (either at rest, or with provocation)

- Accounts for 50% of HF
- High morbidity and mortality
- A/w comorbidities like:
  - Age, obesity, HTN, CAD, CKD, AF, OSA, DM

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DIASTOLIC dysfunction ≠ HFPEF

- Diastolic dysfunction alone does not equal HFpEF
  - The 2 are not synonymous
  - Diastolic dysfunction is essentially part of normal aging and seen in many people that do not and will never have HFpEF
  - A patient can have impaired diastolic function without HFpEF.
  - LV filling pressures can be elevated without HFpEF
- In order to be HFpEF the person needs:
  - A normal EF
  - Evidence of diastolic dysfunction
  - Evidence of elevated filling pressures at rest or with exercise
  - AND clinical symptoms and signs of heart failure

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Systolic dysfunction in HFpeF

- Although EF is normal in HFpEF
- They usually have some evidence of systolic dysfunction as well
- Remember: EF is only one marker of systolic function (and a fairly crude one at that)
- Often see subtle markers of reduced systolic function:
  - Strain
  - Long-axis function (tissue Doppler annular velocities)

Other TTE findings in HFpEF

- Often have dilated atria (chronically elevated left atrial/LV filling pressures)
- 2/3 have elevated pulmonary artery pressure
- 1/3 have some degree of RV dysfunction
- AF in >1/2

Endothelial Dysfunction in HFpEF

- Obesity, age, sedentary lifestyles, insulin resistance, hypertension are frequent comorbidities.
- Thought these play a role in the pathophysiology
- Possibly leading to a proinflammatory state that leads to endothelial dysfunction, coronary microcirculatory dysfunction and myocyte hypertrophy

HFpEF Scoring Systems:

- H2FPEF score
  - Heavy, BMI > 30 = 2 pts
  - HTN on 2+ agents = 1 pt
  - AF = 3 pt
  - PHTN – PASP > 35mmHg = 1 pt
  - Elder > 60 = 1 pt
  - Filling pressures , E/e' > 9 = 1 pt
- Scores ≥6 = likely HFPEF
- Scores between 2-5
  - suggest stress testing/RHC with exercise

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Diagnosing HFpEF

- Need:
  - Symptoms and signs of HF
    - Clinical history of dyspnoea on exertion
    - Investigations showing this is likely cardiac in nature: eg congestion on CXR (acute setting), or elevated BNP
  - Diastolic dysfunction and elevated filling pressure at rest or with exercise (Echo or invasively)
    - Rest – Echo or Right Heart Cath
    - Exercise – Stress Echo or Exercise Right Heart Cath (wedge 15 or more at rest or > 25 with stress)

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What is not HFpEF

- Valve disease
- Restrictive CM
- HCM
- Amyloid
- Pericardial diseases
- RHF (isolated or secondary to lung disease)
- High output HF
- LVOT obstruction
- Coronary artery disease

HFpEF Treatment

- Treatment:
  - Decongestion.
  - Less evidence for GDMT
  - The 4 classes of HFrEF drugs don't have the same mortality benefit in HFpEF
    - SGLT2i– Level 2a – may reduce HF hospitalisations and some evidence for reduced mortality
    - MRA
    - ACEI/ARB
    - AARNi
      - May reduced hospitalisations not on PBS for this. Level 2b

- **Main focus is:**
  - Tx contributing comorbidities:
    - HTN
    - Weight – GLP1
    - AF
    - OSA
    - DM
    - Coronary disease
    - Anaemia
    - Diabetes
    - Promote healthy diet
    - Regular exercise

Referral to Cardiology

Western Health

- Should be considered for all with HFrEF
- Public or private
  - If have private Cardiologist, no need for referral to public system, unless further assistance is requested by their private Cardiologist
- Western Health has a Heart Failure specific clinic
- Up to date Echo is required, demonstrating cardiomyopathy or reduced EF
- Further details for referral to Western Health can be found on Western Health internet page – currently being updated

Heart Failure Clinic Western Health

- **Heart failure with Reduced Ejection fraction (HFrEF) or HFmrEF**
  - We will see patients with HFrEF (EF <40%) and HFmrEF (EF <50%)
- **Cardiomyopathies**
  - We will see patients with clinical evidence of a cardiomyopathy, eg: restrictive, hypertrophic, infiltrative (eg amyloid, sarcoid), ARVC, chemotherapy-related etc.

- **Echocardiogram (TTE) results MUST be attached**. If no TTE has been performed in the last **2 years**, please organize one. Referrals without an attached TTE will be rejected.

Heart Failure Clinic Western Health

- **Heart Failure with Preserved Ejection fraction (HFpEF)**
  - We will see patients that remain symptomatic despite maximum tolerated diuretics.
  - Must have CONFIRMED HFpEF, (eg EF> 50%, diastolic dysfunction/elevated LA pressure, signs of HF)
  - Must have already trialed diuretics and management of contributing factors: (hypertension, sleep apnoea, atrial fibrillation, diabetes), and yet remain symptomatic
  - HFpEF patients meeting the above criteria may be seen in clinic up to 3 times to help medication titration and will then be discharged back to their primary physician.

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Heart Failure Clinic Western Health

- Patients not seen:
  - Those who already have a Cardiologist managing their HF
  - Patients who do not have a confirmed diagnosis of HFrEF or Cardiomyopathy
    - E.g. Undifferentiated dyspnoea for investigation
  - Referrals with no recent TTE results attached
  - Patients who are very frail/elderly > 85yo with multiple comorbidities, where HF is only one of many issues that need attention, may be best served by Gen Med

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Heart Failure Clinic Western Health

- Information to be included on referral
  - Clinical details, symptoms, prior treatments
  - Current medications
  - Comorbidities/Past Hx
  - Enough information is required re clinical status in order to accurately triage
  - Investigations:
    - Recent TTE
    - ECG
    - FBE, UEC, LFTS, TFTs, Fasting lipids
    - If available: Iron studies, CXR, Sleep studies, Stress test, lung function tests

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SAFE-HF - tranSlating heArt Failure guidElines into practice:an RCT of a Nurse Practitioner service

Funded by MRFF/NHMRC

Principal investigator: Prof Andrea Driscoll

BACKGROUND

- Heart Failure (HF) management is complex, encompassing non-pharmacological strategies, multiple drug classes, and intervention-based approaches (i.e., pacemakers)
- More than 150,000 people with HF are hospitalised annually in Australia
- In previous studies, only 13% of HF patients received guideline recommended medications, outpatient review, and a HF nurse review within 30 days of discharge;[1] whereas 60% of HF patients were prescribed medications that may cause or exacerbate their HF[2]
- Primary care is the cornerstone of HF management and can be enhanced by HF specialist services that include HF nurse practitioners (NPs)

METHODS

- RCT involving 1200 HF patients discharged from four health services

Intervention group

- Structured, evidence-based management in primary care by HF NP, GP and primary care nurse in a co-consulting arrangement
- A HF NP will see HF patients 1 week post recruitment and weekly for up to 12 weeks post enrolment (at the discretion of NP)

Control group

- Usual follow-up care organised by the hospital and GP

AIMS

- To improve the translation of HF guidelines into practice through implementing and testing a new system of care, called SAFE-HF (compared to usual care)
- To ↓ rehospitalisation and mortality
- To ↑ quality of life and HF self-care at home
- To provide return on investment

Please complete this form if you are a GP or practice nurse/manager who would like further info for your team. This is an EOI only.

Questions???

- Thank you!

Western Health

Session Conclusion

We value your feedback, let us know your thoughts.

Scan this QR code

You will receive a post session email within a week which will include slides and resources discussed during this session.

Attendance certificate will be received within 4-6 weeks.

RACGP CPD hours will be uploaded within 30 days.

To attend further education sessions, visit,

https://nwmphn.org.au/resources-events/events/

This session was recorded, and you will be able to view the recording at this link within the next week.

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