Heart failure
Manawa-hē

The information in this guide is accurate to the best of our knowledge as of June 2023.

Definition

Heart failure is a complex clinical syndrome, where changes to the structure or function of the heart reduce cardiac output. With or without treatment, heart failure progresses over time so older adults are more at risk than their younger counterparts (bpac^{nz} 2022).

Key points

- Overall, heart failure affects at least 10 percent of people aged over 70 years. Within this group, about 50 percent die within 5 years of diagnosis.
- Up to a third of people living in residential care have heart failure (Daamen et al 2015).
- Māori and Pacific peoples experience an earlier onset of heart failure and a higher rate of morbidity and mortality than other New Zealand ethnic groups (bpac^{nz} 2022).

Why this is important

Heart failure is both chronic and progressive. However, treatment can relieve symptoms and improve function and quality of life (Daamen et al 2016). Understanding disease stage supports conversations about treatment and care options. Management of heart failure can be complicated by frailty and other chronic conditions, such as diabetes and chronic respiratory disease (Riley 2015).

Implications for kaumātua*

The burden of cardiovascular disease (CVD) disproportionately affects Māori compared with New Zealand Europeans (Ministry of Health 2018). The reasons are related to ongoing inequities in health and in experiences of social determinants of health (Miner-Williams 2017; Selak et al 2020). Due to the higher incidence of CVD in Māori, it is likely that there will be kaumātua in aged residential care who have heart failure. Providing them with appropriate care is vital.

A Māori view of health is holistic. When caring for kaumātua with heart failure, it is important to consider care from this perspective, rather than focusing solely on the disease of heart failure. A holistic approach takes account of the person's spiritual and emotional wellbeing and includes their **whānau**/family.

* Kaumātua are individuals, and their connection with culture varies. This guide provides a starting point for a conversation about some key cultural concepts with kaumātua and their whānau/family. It is not an exhaustive list; nor does it apply to every person who identifies as Māori. It remains important to avoid assuming all concepts apply to everyone and to allow care to be person and whānau/family led.

The following are aspects to consider in your approach to care.

- Kaumātua and whānau/family may see symptoms associated with heart failure as a normal or expected part of ageing. If they do, it is essential to give them all the information they need to fully participate and engage in treatment and ongoing management.
- For effective management of CVD, health professionals must have a trusting relationship with kaumātua and whānau/family (bpac^{nz} 2008; Kerr et al 2010).
- **Whakawhanaungatanga** (building meaningful connections) is critical in establishing these relationships. See the *Guide for health professionals caring for kaumātua | Kupu arataki mō te manaaki kaumātua* for more information.

Whānau/family can be a useful source of valuable, culturally informed (**mana**-enhancing) interventions as they are invested in the health and wellbeing of their loved one. Involve them in care planning wherever possible.

Assessment

Nursing assessment of heart failure includes identifying potential new cases, maximising the health of those with heart failure and responding to acute exacerbations.

Identifying new heart failure

- New-onset heart failure can be difficult to identify because classic symptoms, such as dyspnoea, fatigue and reduced exercise tolerance can be caused by other conditions (bpac^{nz} 2022).
- People with heart failure are more likely to have a history of cardiac disease, fatigue, irregular heart rate, oedema in lower limbs, rapid weight gain and breathlessness when lying flat (orthopnoea) or that causes sudden waking from sleep (paroxysmal nocturnal dyspnoea) (Daamen et al 2015).
- ANEWLEAF is a tool that can help identify acute exacerbation of heart failure if that occurs as part of a new heart failure diagnosis or as a result of unmanaged disease (Heckman et al 2018).

A	Agitation/anxiety (especially if new)
N	Nights bad: trouble breathing, urinating more
E	Oedema (swelling in which you can leave a fingerprint indentation)
W	Weight gain (from water retention)
L	Light-headed, dizzy
E	Extreme trouble breathing when lying flat
A	Abdomen bloated, abdominal pain, not hungry
F	Fatigue, tired

- The most common primary care diagnostic test for heart failure is N-terminal pro-brain natriuretic peptide (NT-ProBNP). In people aged 75 years and over, a level of more than 210 pmol/L (1,800 pg/ml) makes heart failure likely (bpac^{nz} 2022).

Identifying an acute exacerbation of heart failure*

- Use the tool ANEWLEAF (see above).

Other signs

- Look for evidence of fluid overload, pitting lower limb and/or sacral oedema. Listen for audible 'wet' breath sounds (Riley 2015). Check the person's weight: an increase of ≥ 2.5 kg in 1 week or ≥ 1–2 kg in 24 hours is significant.
- Measure vital signs. Most people will have normal or high blood pressure in the early stages of an acute exacerbation (Mebazaa et al 2015).
- Shortness of breath is a key sign – see the first table below.

Breathlessness in heart failure (adapted from Mebazaa et al 2015)

	Mild to moderate shortness of breath		Severe shortness of breath
Rate	< 20 breaths/minute	> 20 breaths/minute	> 24 breaths/minute at rest and using accessory muscles
Saturation	> 95%	94%	≤ 93%
Activity	Dyspnoea with walking (state distance)	Dyspnoea with usual activity	Dyspnoea at rest
Speech	Unable to finish a whole sentence	Short sentences or a few words only	Unable to speak, nodding only
Position	Using pillows in bed	Sitting upright	Unable to lie down due to shortness of breath (refusing to go to bed)
Cyanosis	No cyanosis	Some lip and fingertip cyanosis	Severe cyanosis with cold sweat

Staging diagnosed heart failure

- Disease staging reference: New York Heart Association (NYHA) classification

NYHA class	Description	Symptoms
1	No symptoms	No obvious symptoms with ordinary physical activity
2	Mild	Comfortable at rest and Dyspnoea, fatigue or palpitations with physical activity
3	Moderate	Comfortable at rest and Dyspnoea, fatigue or palpitations with minimal activity
4	Severe	Dyspnoea, fatigue or palpitations at rest and worse with activity

* Some heart failure patients present with chest pain or syncope. See the guides to *Acute deterioration | Te tipuheke tārū* or *Syncope and collapse | Tīrehe*.

- The definition of advanced heart failure from the American College of Cardiology Foundation and American Heart Association is:
  - more than two hospitalisations in 1 year
  - progressive deterioration in renal function
  - unintended weight loss (cardiac cachexia)
  - unable to tolerate angiotensin-converting enzyme (ACE) inhibitors or beta-blockers because of hypotension and/or worsening renal function
  - needing more than 160 mg of furosemide (or equivalent) daily
  - hyponatraemia.
- Although the mortality rate with heart failure is high, no particular tool is any better at estimating life expectancy than clinical experience. Conversations about advance care planning or shared goals of care are part of caring for someone with heart failure.

Treatment

Pharmacological

The mainstay of treatment is pharmacological. Use a loop diuretic to improve symptoms of fluid overload and an ACE inhibitor, a beta-blocker and spironolactone to decrease the chance of mortality and hospitalisation. Individuals will vary in their response to medicines; however, provided there are no contraindications, medications are usually titrated to the most effective dose (Atherton et al 2018).

Monitoring for medication benefits and potential harms

- Weigh daily, ideally first thing in the morning and the same time every day. If the person gains ≥ 1–2 kg in 24 hours or ≥ 2.5 kg in 1 week, they require general practitioner or nurse practitioner review.
- If diuretic has been changed, weigh daily. Review and report results against target weight and timeframe. Alert prescriber when targets are either not met or exceeded.
- Review laboratory results. Look for low sodium, low haemoglobin and decreasing estimated glomerular filtration rate (Atherton et al 2018).
- Be alert for signs and symptoms of gout (Atherton et al 2018).
- Be alert for heart failure symptoms when any medication is changed (eg, corticosteroids increase the risk of fluid overload and antidepressants can worsen hyponatraemia).

Fluid balance

- To help fluid management, restricting fluid to 1.5 L per day is common. Also recommended is to limit sodium intake to no more than 2 g per day (Atherton et al 2018).

General health

- All treatments for frailty are relevant to this group.

Care planning

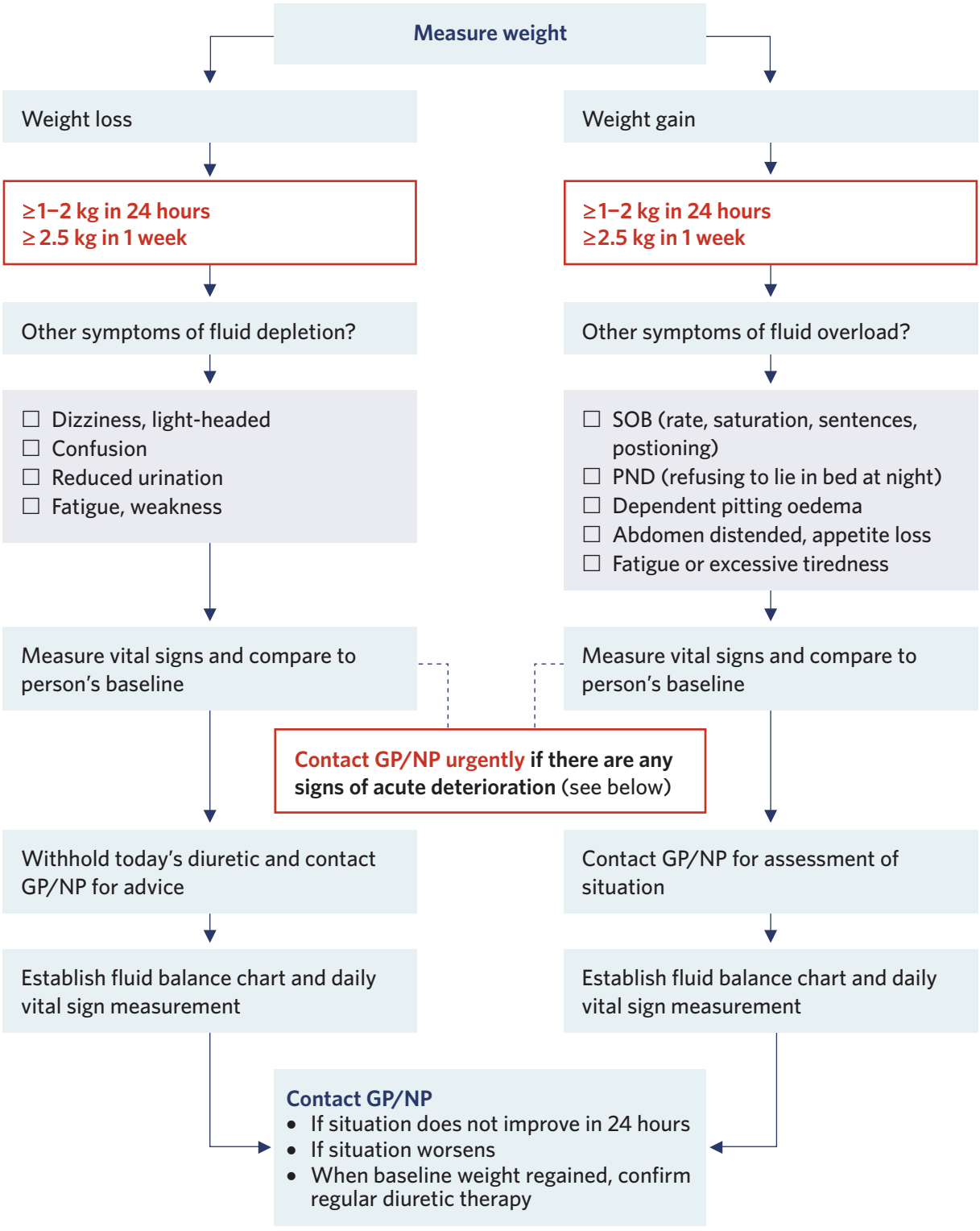
Heart failure is a progressive chronic condition that worsens frailty. Interventions aimed at delaying or improving symptoms of frailty (physical activity, nutrition, social care), along with medication management, apply to this group.

Further resources

Chronic Disease Management in Long-term Care: Heart failure. Provincial Geriatrics Leadership Ontario webinar. URL: **rgps.on.ca/resources/chronic-disease-management-in-long-term-care-heart-failure**.

Decision support

Diuretic management



Vital signs – these ranges indicate acute deterioration

☐ Respiratory rate: ≥ 25 or < 10 breaths per minute
☐ Oxygen saturation ≤ 93%
☐ Systolic blood pressure ≤ 100 mmHg
☐ Pulse ≥ 100 or ≤ 50 bpm
☐ Temperature > 37.2°C **or** ≥ 1°C above baseline **or** < 35°C

bpm = beats per minute
GP = general practitioner
NP = nurse practitioner
PND = paroxysmal nocturnal dyspnoea
SOB = shortness of breath

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