

12:45pm - 1:25pm

Cardiology Update

Dr Johanne Neill

















WMHHS Cardiology update

2nd August 2025
Johanne Neill
Director of Cardiology

Update on NEW Heart Foundation ACS guidelines

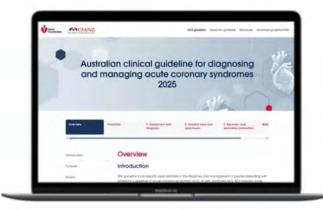
WMHHS Cardiology services

WMHHS Cardiology service of the future

New ACS guideline hub







heartfoundation.org.au/ for-professionals/acs-guideline

Resources





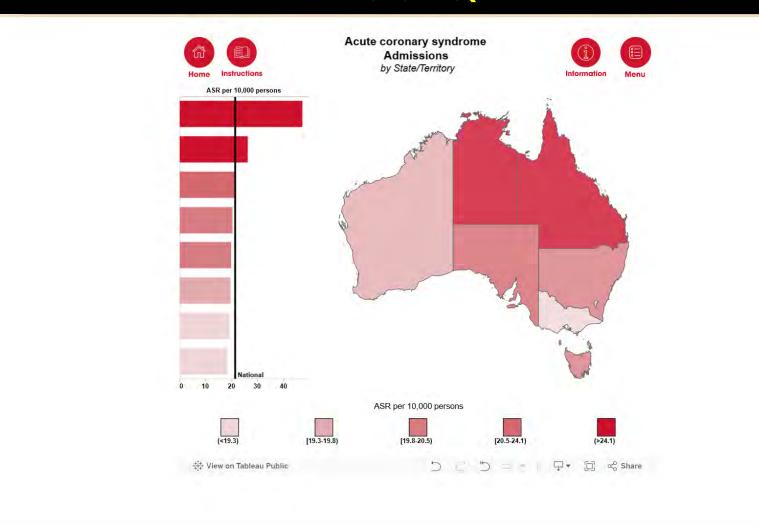
Impact of ACS in Australia

- Each year in Australia, there are over 57,000 acute coronary events among people aged 25 and over.
- This is equivalent to nearly 160 people every day, or one person every nine minutes.
- The impact of ACS varies across different population groups – women, First Nations peoples, people living in regional and remote areas, older people.



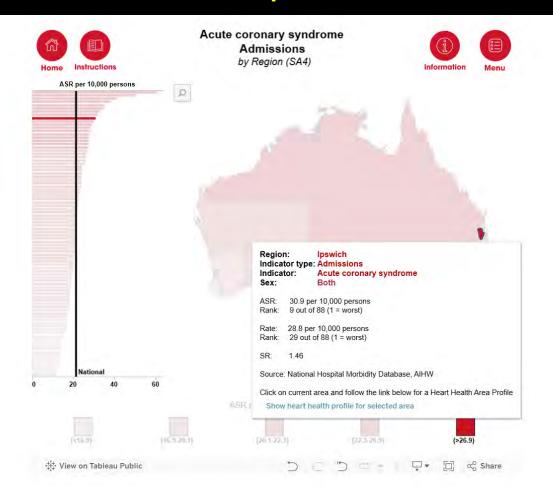


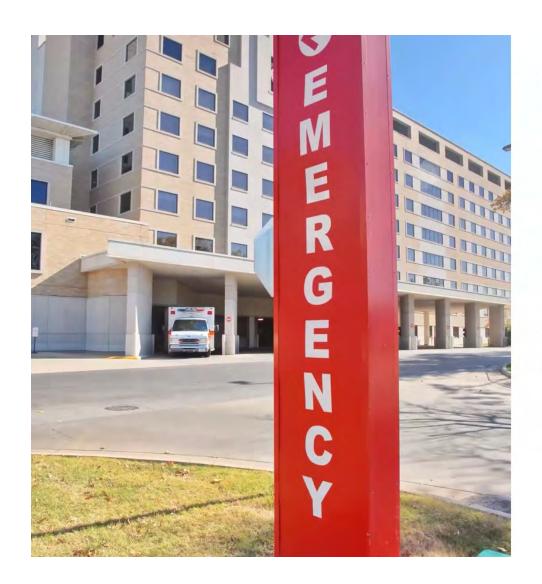
ACS QLD



Second only to NT for ACS admission rate

ACS Ipswich





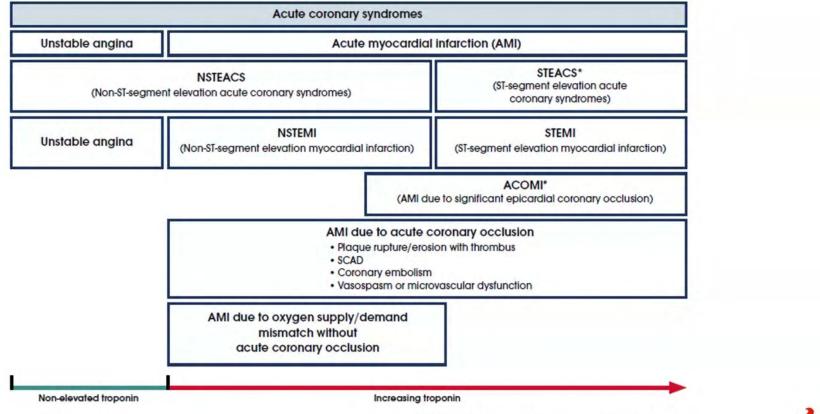
Assessment & Diagnosis

What's new?

- New terminology
- Initial ECG assessment
- Biomarkers
- Risk assessment and clinical decision pathways for suspected ACS
- Further diagnostic testing for people with suspected ACS
- Role of rapid access chest pain clinics
- Primary care and regional and remote presentations



Classifications of conditions associated with ACS

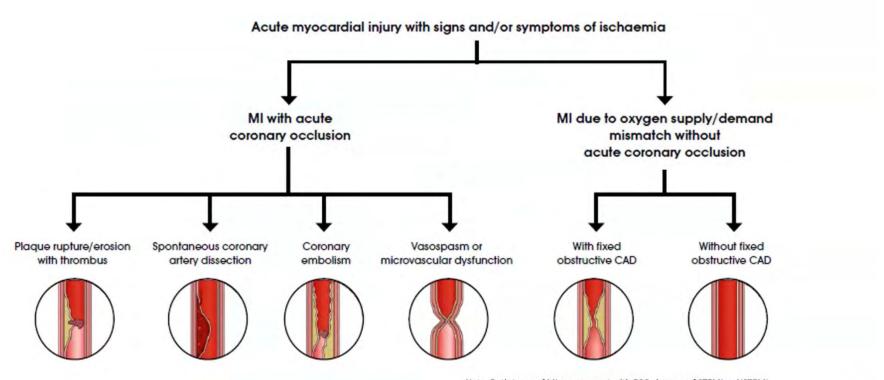


^{*}Not all people with STE will have elevated cardiac troponin values.



^{*}The term ACOMI incorporates both STEMI and STEMI equivalents.

Revised classification of MI



Note: Both types of MI may present with ECG changes of STEMI or NSTEMI.

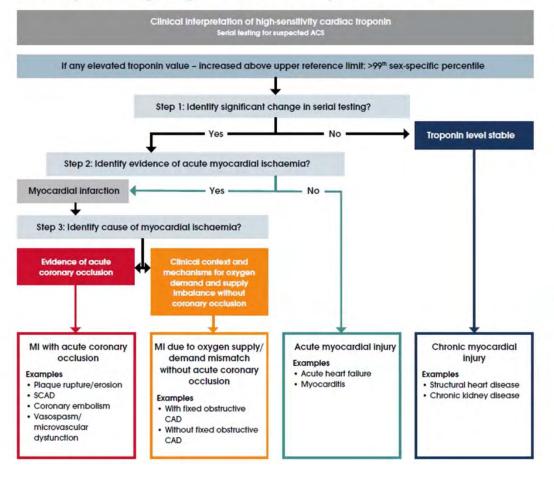


ECG findings of acute coronary occlusion MI (ACOMI)

- If ACOMI is not initially identified, the ECG should be further examined for features associated with higher likelihood of evolving to ACOMI or signs of myocardial ischaemia.
- Various ECG patterns of ACOMI beyond the traditional STE.
- Recognition of these patterns should prompt consideration of emergency reperfusion.
- Validated Modified Sgarbossa criteria improves diagnosis of STE in people with left bundle branch block (LBBB) or right ventricular pacing with 99% specificity and 80% sensitivity.

		and illustration	for clinical action
A. Regional STE with reciprocal STD	STE≥1 mm at the J-point in two contiguous leads in all leads other than V2-4. V2-4 STE criteria: ≥1.5 mm in women ≥2 mm in men ≥40 years ≥2.5 mm in men <40 years	Normal ST-depression ST-elevation P-R segment J-point J-point T-P segment ST segment assessment point	Activate reperfusion pathway
B. High lateral MI	STE I, aVL, V2 STD III (+/- II, aVF) Subtle STE V5, V6 and reciprocal changes in aVF may be seen.		Activate reperfusion pathway
C. Posterior MI	Precordial STD ≥0.5 mm V1-3 Confirm with posterior leads (V7.8.9) with findings of STE: • ≥0.5 mm in women and men ≥40 years • ≥1 mm in men <40 years	V7, 8, 9 supplementary lead placement	Activate reperfusion pathway
D. Right ventricular MI	STE ≥0.5 mm in any right-sided chest lead (V3R-V6R), but particularly V4R. STE ≥1 mm in men <30 years	Right precordial supplementary lead placement	Activate reperfusion pathway
E. De Winter T waves	J-point depression with up-sloping ST segments and tall, prominent, symmetric T waves in precordial leads, with STE (20.5 mm) in aVR and an absence of STE in precordial leads.	V3	Activate reperfusion pathway
F. Modified Sgarbossa criteria (LBBB or paced rhythm)	Any of the following: A) Concordant STE>1 mm in leads with positive QRS complex B) Concordant STD≥1 mm V1-3 C) STE≥1 mm in one or more leads at the J-point which is proportionally discordant to the preceding S wave by >25%.	A B C Height or discordant 31E J-point 1 Page 1 Pag	Activate reperfusion pathway

Interpreting high-sensitivity cTn results

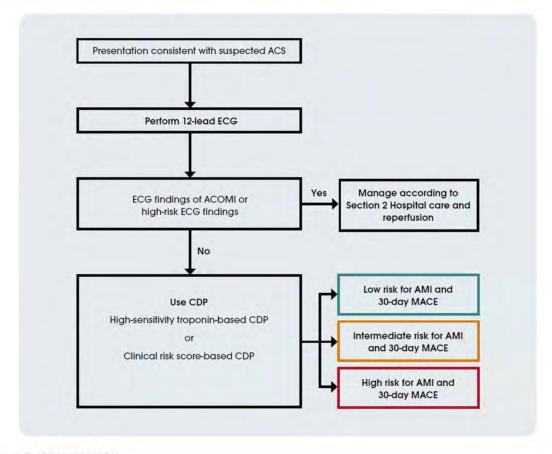


- Ability to detect very low troponin values with accuracy (≤10% CV at 99th percentile).
- When evaluating changes (deltas) in troponin values, serial results from a single assay must be used.
- Identify if there is a stable or changing pattern associated with an elevated cTn.
- Comparable diagnostic accuracy between hs-cTnI and hs-cTnT.

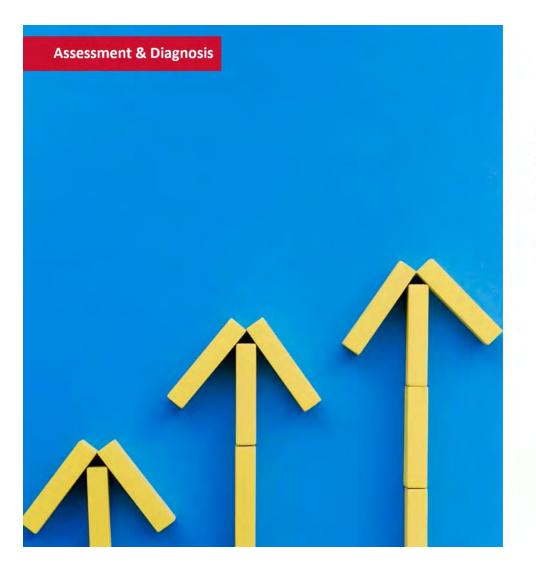


Assessment & Diagnosis

Assessment process for suspected ACS







High-sensitivity troponin-based CDP

A high-sensitivity troponin-based clinical decision pathway is recommended, using: (Consensus)

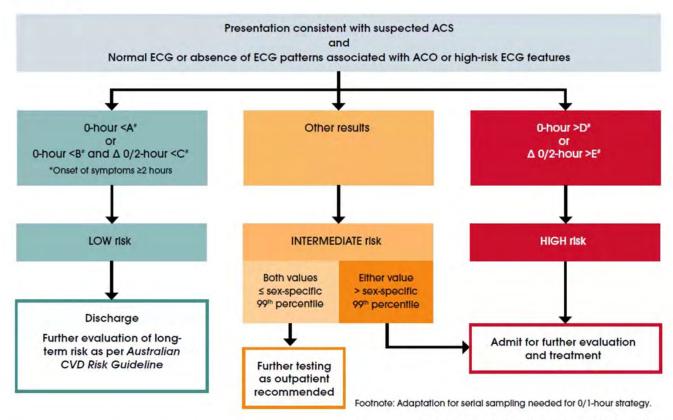
- 0/1-hour or 0/2-hour strategy, or
- High-sensitivity troponin in the evaluation of patients with acute coronary syndrome (High-STEACS) algorithm.



Assessment & Diagnosis

High-sensitivity troponin-based CDP:

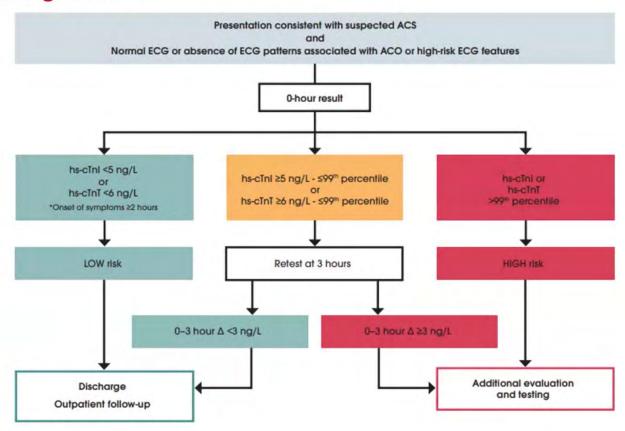
0/2-hour testing



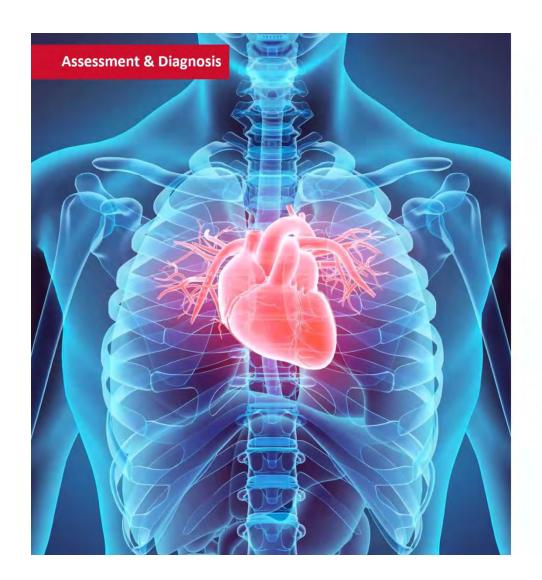


High-sensitivity troponin-based CDP:

High-STEACS algorithm







Further diagnostic testing for people with suspected ACS

In people at low risk who remain symptom-free, further cardiac testing for CAD is not routinely required. (Consensus)

In people at intermediate risk (as defined by a validated CDP) with elevated troponin concentrations (>99th percentile), <u>inpatient</u> investigation is recommended. (GRADE SOR: Strong; COE: Moderate)

 Invasive cardiac testing is now an option to further stratify and assess risk beyond 30 days.

In people at intermediate risk without elevated troponin concentrations, consider <u>outpatient</u> investigation with non-invasive testing. (Consensus)



Role of rapid access chest pain clinics (RACPC)

- RACPCs may assist with choice of further investigations including non-invasive testing or management in selected people discharged following an ACS. (Cho, French et al. 2023)
- Benefits of RACPCs: (Black, Cheng et al. 2019, Yu, Brazete et al. 2021, Kozor, Mooney et al. 2022)
 - more efficient access to testing and diagnosis
 - cost savings compared to hospital admission
 - greater patient satisfaction
 - equal or improved safety compared to traditional hospital-based care
 - reduced invasive investigations
 - lower rates of ED re-presentation.
- Access to these clinics should be prioritised for selected intermediate-risk people with cTn levels <99th percentile where protocolised assessment guidelines are not available.



Primary care and regional and remote presentations

Metropolitan health services should establish centralised support systems for regional and remote health services to facilitate: (GRADE SOR: Strong; COE: Low)

- prompt assistance with ECG interpretation and access to troponin results when on-site access is not available
- provision of clinical advice to healthcare professionals
- · access to cardiac investigations if required.



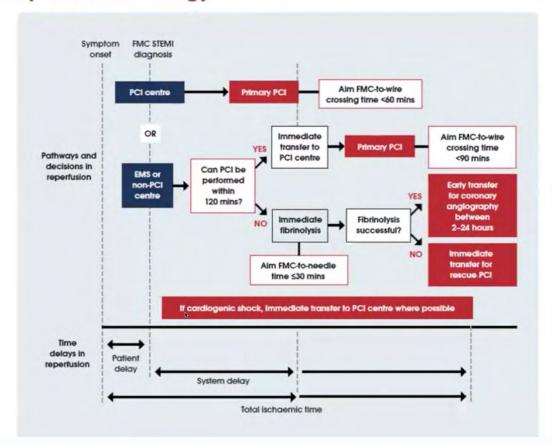


Hospital care and reperfusion

- Whats new?
- Acute STEMI management
- Acute NSTEMI management
- SCAD management
- Management of ACS with shock or cardiac arrest
- Management of ACS with mutivessel disease
- Antiplatelet regimen

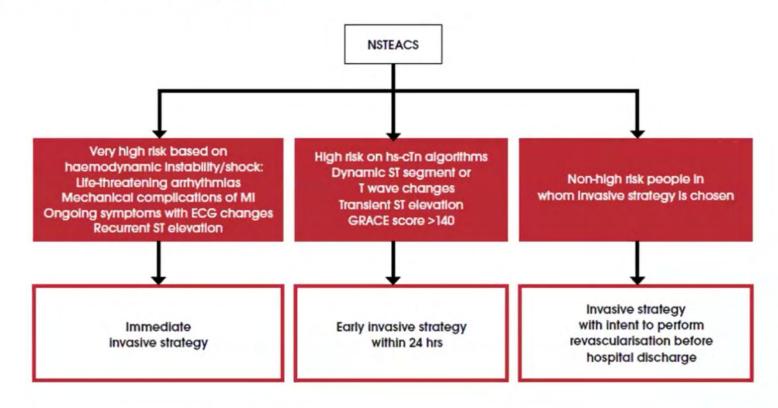
Acute management of STEMI:

Choice & timing of reperfusion strategy

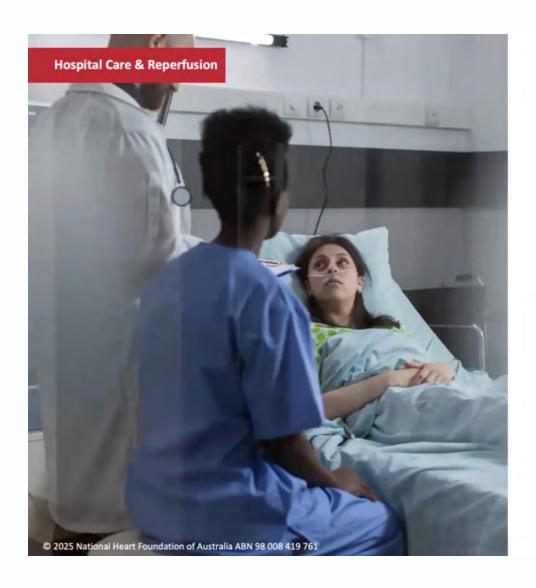


Acute management of NSTEACS:

Timing of invasive management







Acute management of NSTEACS: Considerations for priority populations

Women

- Use radial-first approach and consider routine invasive strategy.
 - Observational data show women less likely to receive an invasive strategy or radial access. (Stehli et al. 2021, Elgendy et al. 2016)

Older adults

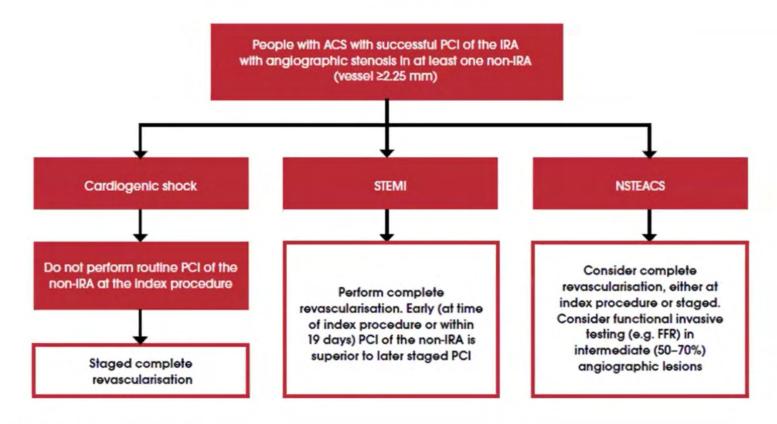
- Consider invasive strategy over initial conservative approach if no frailty, multimorbidity or cognitive dysfunction based on objective assessment.
- Individualise treatment decisions, balancing the potential for improved outcomes with the risks of complications, especially bleeding.

First Nations peoples

- Provide information about transfers or invasive management with assistance from First Nations health practitioners or Aboriginal liaison officers.
- Recognise barriers to equitable care.



Managing ACS with multivessel disease (MVD)



Pharmacotherapy in the acute phase



Antiplatelet therapy

In people with STEMI undergoing primary PCI and people with NSTEACS undergoing a routine invasive strategy, give dual antiplatelet therapy with aspirin and a potent P2Y₁₂ inhibitor (ticagrelor or prasugrel). (GRADE SOR: Strong; COE: High)

Preferred P2Y₁₂ inhibitors ticagrelor or prasugrel: more rapid onset of action, greater potency than clopidogrel.

Practice points for timing of P2Y₁₂ inhibitor administration:

- STEMI: Consider pretreatment with a P2Y₁₂ inhibitor.
 - P2Y₁₂ inhibitor given before angiography, compared to during or immediately after PCI did not reduce mortality or major bleeding. Subgroup analysis found pretreatment in the pre-hospital setting associated with reduced MI (RR 0.73, 95% CI 0.56–0.91, p < 0.01). (meta-analysis Gewehr, Carvalho et al. 2023)
- NSTEACS: P2Y₁₂ inhibitors can be withheld until the coronary anatomy is known if coronary angiography can be performed within the time recommendations based on risk.
 - RCTs found pretreatment increased bleeding but not ischaemia but trials were with prasugrel. (ACCOAST trial)
 - Observational evidence suggests similar results with ticagrelor and clopidogrel. (SWEDEHEART registry)
- STEMI and NSTEMI: Administration of P2Y₁₂ inhibitor after the coronary anatomy is known is reasonable when clinical suspicion of need for urgent cardiothoracic surgery e.g. left main ischaemia pattern on ECG.



Pharmacotherapy in the acute phase



Antiplatelet therapy

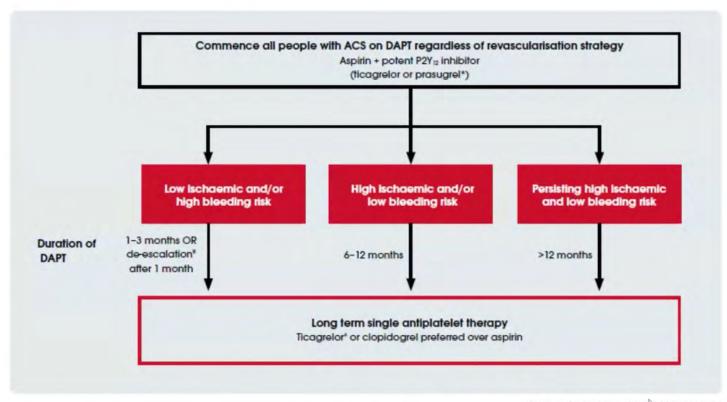
In people with ACS with concomitant non-valvular atrial fibrillation and CHA2DS2VA score >1, give aspirin and clopidogrel, together with a non-vitamin K oral anticoagulant. (GRADE SOR: Strong; COE: High)

After an initial period (1-4 weeks) of triple therapy (aspirin + P2Y₁₂ antagonist + OAC), lower bleeding rates seen with direct oral
anticoagulants (DOACs) and clopidogrel compared to warfarin with continued DAPT. (PIONEER AF-PCI, RE-DUAL PCI, AUGUSTUS)



Antiplatelet therapy: DAPT duration





*Prasugrel is not currently available in Australia.

¥Refers to the de-escalation of DAPT to aspirin and a less potent P2Y12 inhibitor (clopidogrel). #Current Pharmaceutical Benefits Scheme criteria preclude the prescription of ticagrelor as single therapy.



Recovery and secondary prevention

Post ACS pharmacoptherapy –
 DAPT, targets, colchicine

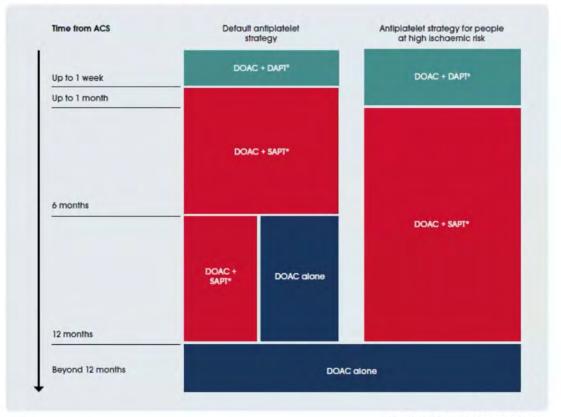
Vaccination

Patient centred cardiac rehab

Antiplatelet therapy:

Long-term anticoagulation

Recovery & Secondary Prevention



#DAPT: aspirin + clopidogrel preferred. *SAPT: clopidogrel preferred.



Lipid-modifying therapy



In people with ACS, an initial target LDL-C level of <1.4 mmol/L and a reduction of at least 50% from baseline is recommended, with further benefit gained from treating to the lowest achievable level. (Consensus)

In people with ACS with a suboptimal LDL-C level despite maximally tolerated statin therapy and ezetimibe, give PCSK9 inhibitors. (GRADE SOR: Strong, COE: High)

Reduced composite CV endpoint over a median follow-up of 2.8 years (HR 0.85 95% CI 0.78-0.93). (ODYSSEY trial)

- Initiate or continue high-potency statin therapy (e.g. atorvastatin or rosuvastatin) as early as possible during the ACS admission, irrespective of baseline LDL-C level.
- If already on lipid-lowering therapy prior to index ACS admission, consider intensifying existing lipid-lowering therapy.
- Re-assess total cholesterol and LDL-C levels approximately 4-6 weeks after initiating or intensifying treatment.
- For men <55 years and women <60 years with ACS, the Dutch Lipid Clinic Network score can guide the need for diagnostic genetic
 testing. If genetic predisposition confirmed, consider cascade testing, genetic counselling, and initiating statins in family members. (Watts
 et al. 2021)
- If TG level 1.5–5.6 mmol/L and LDL-C 1.0–2.6 mmol/L despite statin therapy, consider adding icosapent ethyl. (Bhatt et al. 2019) Current PBS criteria TG 1.7 mmol/L.



Other post-ACS pharmacotherapies

Renin-angiotensin antagonist therapies

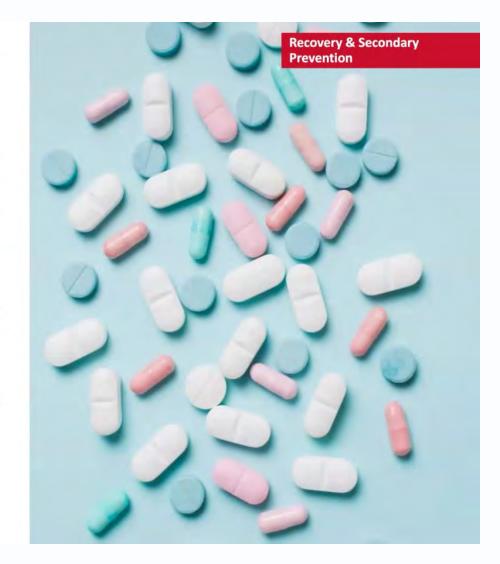
In people with ACS, use of an angiotensin receptor—neprilysin inhibitor is not recommended. (GRADE SOR: Strong; COE: High)

PARADISE-MI trial (majority post-acute MI with LVEF ≤40%)
 assigned people to angiotensin receptor-neprilysin inhibitor
 or ACE inhibitor, showed no difference in CV death or
 incident heart failure at 22 months.

Colchicine therapy

In people with ACS, <u>consider initiating colchicine</u> (0.5 mg daily) and continuing long-term unless contraindicated or colchicine-intolerant. (GRADE SOR: Weak; COE: Moderate)

- Lower risk of coronary revascularisation and stroke, and no significant difference in mortality or MI. (meta-analysis Bao, Gu et al. 2022)
- No benefit on composite CV endpoint. (CLEAR trial)





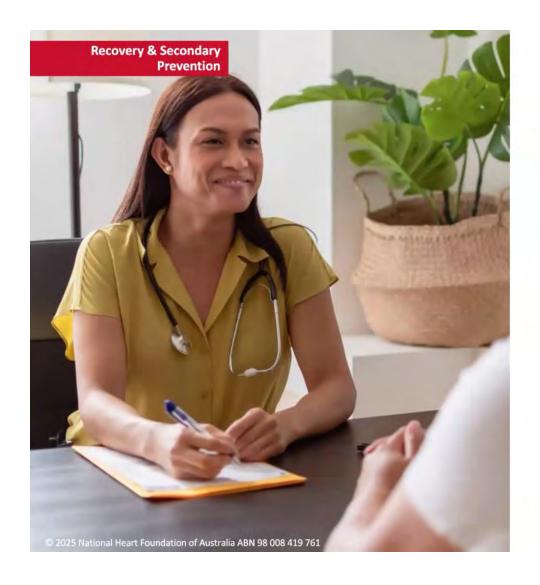


Vaccination against influenza and other respiratory pathogens

In people with ACS, vaccinations for influenza and other respiratory pathogens are recommended. (Consensus)

- International RCT (n=2,571 people with STEMI or NSTEMI) found reduced primary composite outcome of all-cause death, MI, or stent thrombosis (HR 0.72, 95% CI 0.52–0.99) at 1 year follow-up. (Frobert, Gotberg et al. 2021)
- Meta-analysis of randomised trials and observational studies (n=240,000 people with CVD, median follow-up 19.5 months) found reduced risk of all-cause and cardiovascular mortality but not MI. (Yedlapati, Khan et al. 2021)

- People with CAD should receive influenza and pneumococcal vaccinations as per recommended schedules.
 - Influenza vaccine can be safely administered within 72 hours of hospitalisation for AMI, including for an invasive coronary procedure. (Frobert, Gotberg et al. 2021)



Person-centred secondary prevention

For all people with ACS, provide advice on lifestyle changes such as healthy eating, regular physical activity, not smoking, limiting alcohol intake, and caring for mental health. (Consensus)

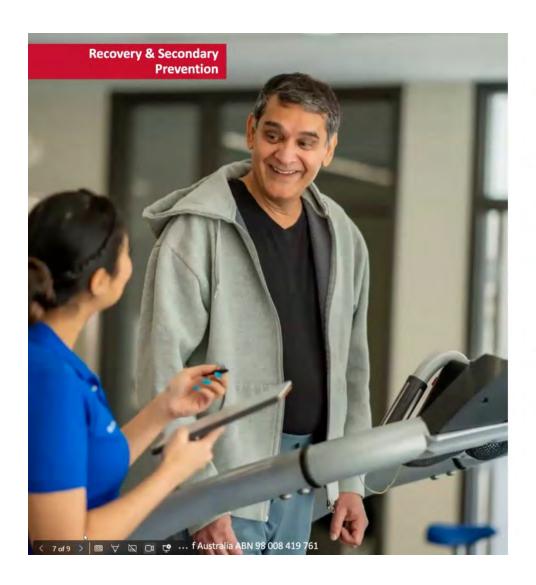
Practice points:

 Screen people with ACS for depression and other mental health conditions using validated tools and refer for appropriate mental health support as required.

For all people with ACS, implement strategies to optimise adherence to preventive medicines. (Consensus)

- Provide effective medicines education during hospital admission and at time of discharge.
- Implement practical strategies e.g. daily alerts/reminders, combining medicines where possible (fixed combination medicines), pharmacy-provided medicine packs.
- Consider post-discharge comprehensive medicine review.





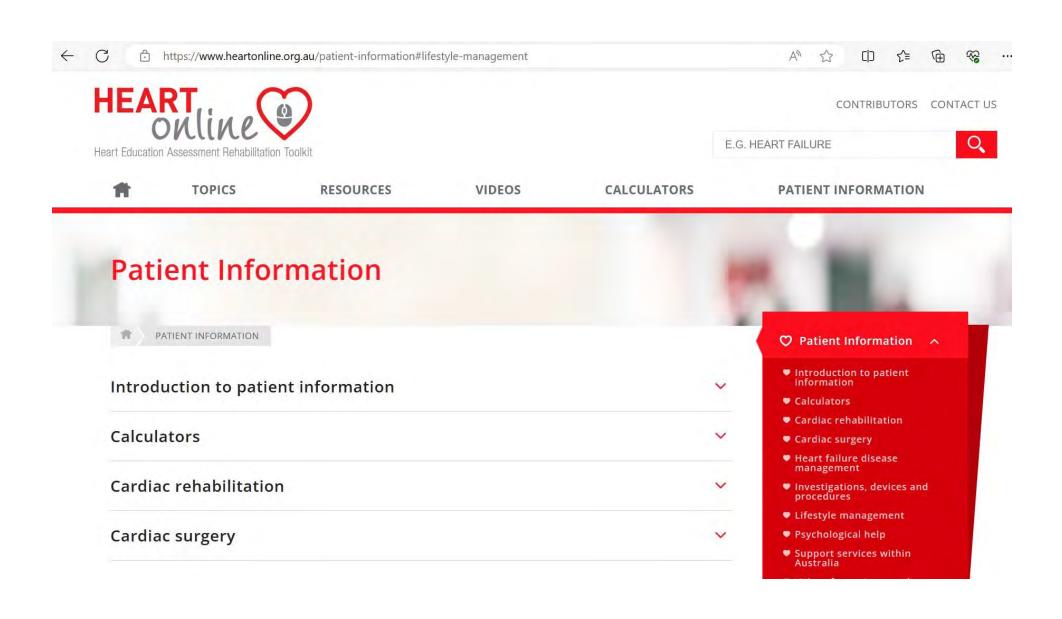
Person-centred secondary prevention

For all people with ACS, refer to a multi-disciplinary exercise-based cardiac rehabilitation program prior to discharge. (GRADE SOR: Strong; COE: Moderate)

- Exercise-based CR associated with reductions in MI (RR 0.82, 95% CI 0.70–0.96) and all-cause hospital admission (RR 0.77, 95% CI 0.67–0.89). (meta-analysis Dibben, Faulkner et al. 2023)
- Key components of CR programs: cardiovascular risk factor management, exercise training and physical activity, nutritional advice, medicines education, mental health support.

- CR can be delivered in-person, remotely (e.g. telehealth) or via flexible CV risk management programs.
- Tailor CR programs, where possible, to meet the unique needs of groups with low attendance rates, including women, First Nations peoples and people from culturally and linguistically diverse communities.
- Consider use of digital health interventions e.g. reminders, SMS, mHealth apps, wearable devices.



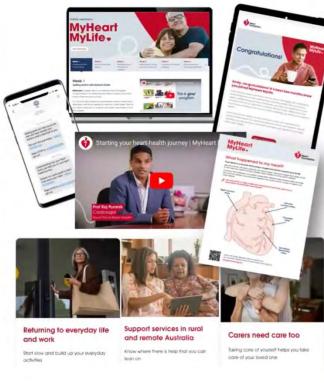


About the MyHeart MyLife patient support program

MyHeart MyLife

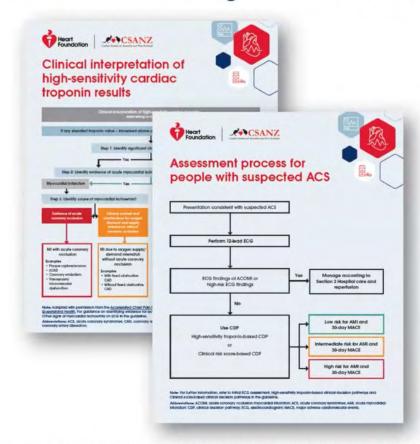
A free, tailored 12-week digital program that delivers reliable heart health information, expert tips and practical tools to support people living with coronary heart disease to live healthier and happier lives.

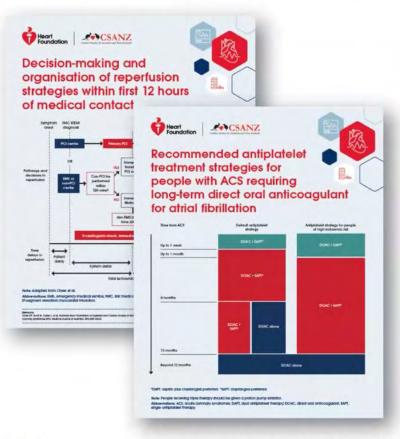






Quick reference guides for healthcare professionals







Implementation

Implementing the new ACS guideline



For patients/carers

 MyHeart MyLife – a support and education program for people living with heart disease and their carers, helping healthcare professionals to implement the 'Recovery and secondary prevention' recommendations for their patients.

Healthcare professionals

 Clinical education and more practical tools and resources in development.

Health system

 Support and advocacy for system-level implementation activities and alignment with national Acute Coronary Syndromes Clinical Care Standards.







LDL-cholesterol	Type 2 diabetes	Hypertension	Cigarettes	Overweight	Triglycerides
<1.4mmol/L	A1c ~7%	sBP ~120mmHg	Cessation	Aim healthy BMI ~ 21kg/m2	~1.7mmol/L
Initial LDL <3 mmol/L maximally tolerated statin Initial LDL >3 mmol/L maximally tolerated statin and ezetimibe Repeat LDL-C at (3 months and if not at target consider PCSK9 Inhibitor 4.Statin Intolerance: Consider bempedoic acid and ezetimibe If LDL > than 5 mmo/L or DLSC score > 4 initiate family cascade screening	Prioritise a regimen with SGLT-2i (especially with CKD) and/or GLP-1RA (especially with obesity)	Prioritise a regimen with ACE/ARB and consider combination therapy early Encouraging home blood pressure recording	Consider nicotine replacement Champix or Zyban	150mins of moderate vigorous physical activity per week. Lifestyle interventions: time-restricted eating, intermittent fasting or meal replacements. Consider use of semaglutide to reduce adverse CV events	If TG>1.7mmol/L despite statin use, consider use of Omega 3 FA such as icosapent ethyl 2g BD

ANGINA ACTION PLAN







02



03

- If you are having angina symptoms, stop what you are doing and rest now
- ▶ Tell someone how you are feeling
- Take 1 puff of your GTN spray

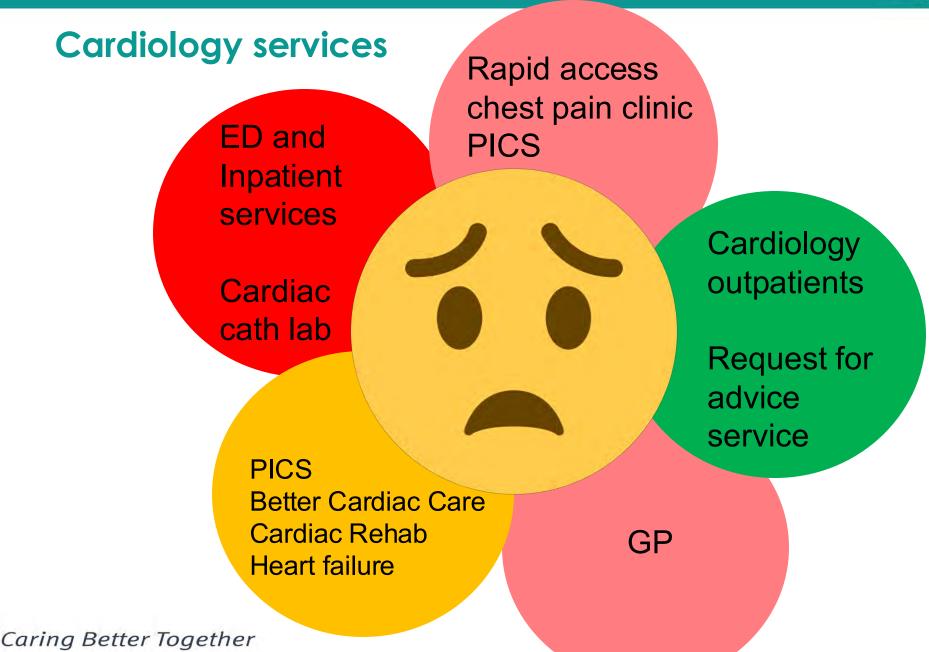
If you still have symptoms after 5 mins, take 1 more puff of your GTN spray

- If you still have symptoms after another 5 minutes, treat it as a heart attack - dial 111 and ask for an ambulance
- Chew an aspirin if advised by a paramedic

If your symptoms go away, you can resume your activities gently

IMPORTANT - if your angina becomes more frequent, severe, lasts longer or happens when you are doing very little or resting, see your doctor in the next 24 hours

CS-PO-AN-ENG-20-V





In patient services

- 6 bed CCU
- 19 potential beds
- Cardiac cath lab Mon, Wed, Friday since 2022 –
- >1500 cases treated closer to home
- Allied health inclusive of specialist pharmacist

4.5 FTE Consultant staff, training site for Cardiology advanced

Trainees

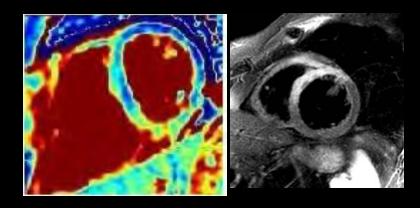


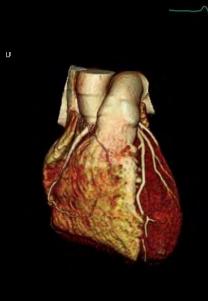


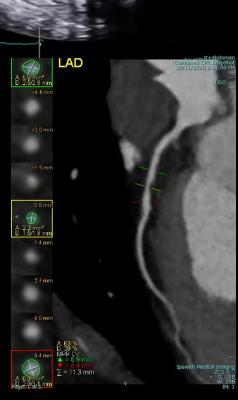


Diagnostic services – Clinical measurements and Medical Imaging

- Echo
- Stress testing / stress Echo
- Holters
- CTCA
- CMRI







Rapid Access Chest Pain Clinic

- 12 years in Ipswich Hospital
- Intermediate risk patients discharged from ED
- GP referrals for stable but ischaemic sounding chest pain triaged by Cardiologist to CPAS
- Nurse lead OP model
- MDT with Cardiologist and Pharmacist to discuss optimal testing and management
- Letter to GP
- Referral GPSR





Better Cardiac Care

CNC, Pharmacist and administrative support

Focussed on coordination of care particularly for vulnerable patients

Post discharge 30 day phone calls

Care navigation

Outreach service - Gatton, Boonah, Esk, IUIH

Goodna

Echo Gatton clinic

Contact for GPs and patients





ED alternatives

West Moreton Health

Emergency Department alternative referral pathways

	Medical Rapid Access Clinic	Preventative Integrated		Hospital in the Home
	(MRAC) Monday to Friday 7.30 am – 3.30 pm	Care Service (PICS) Monday to Friday 7.30 am – 3.30 pm	Minor Injury and Illness Clinic 7 days a week 8 am – 10 pm	(HITH) 7 days a week 7 am – 7 pm
About this service	Refer patients who would normally be sent to the ED with medical pathology who would benefit from rapid specialist physician review but are otherwise stable to be managed in the community. Patients will be seen between 24-72 hours after the referral is accepted.	PICS provides rapid access (review within 24-48 hours) to intensive multi-disciplinary management delivered by a team of medical, nursing, and allied health clinicians, with a specific focus on supporting people with diabetes, cardiology, and respiratory chronic conditions to avoid a potential hospital presentation or admission.	The Minor Injury and Illness Clinic at Ripley Satellite Hospital provides urgent care. It is not an Emergency Department. If your patient requires an urgent ultrasound, CT or formal pathology, please refer them to the Emergency Department.	HITH provides acute care for patients with conditions requiring care equivalent to or a component of an acute hospital admission. HITH care includes home-based IV therapy for infections and fluid overload, warfarin and other medication titration, close monitoring of bloods or observations (including blood glucose), delirium monitoring and management, post-acute allied health intervention, post-acute wound care and long-term IV antibiotics. Patients will be admitted as inpatients during their care period with HITH and contacted daily and therefore Medicare billing is not permitted.
Eligibility	Phone to discuss patient before making referral	Phone to discuss patient before making referral	Phone to discuss patient before making referral	Phone to discuss patient before making referral
Telephone	3413 5868	CNC triage line: 0409 594 866	Triage nurse: 3436 3765	Intake line: 0418 177 831
Fax	3810 1253	3447 2893		
Exclusions	Unstable and undifferentiated patients best seen in the Emergency Department Age <16 Aggressive and agitated patients Pain Infections requiring isolation (Influenza, covid, TB)	 Clinically unstable requiring emergent/immediate assessment and management All residential aged care residents Age <16 years for patients 	Chest pain Difficulty breathing Decreased consciousness Sudden severe headache Severe abdominal pain Severe burns Late pregnancy complications Severely ill children	Patient too unwell to stay home Patient not consenting to HITH care Patient requiring therapy not amenable to HITH (interventions > 12 hours per day, complex wound care, chronic wound care) Age < 15 Patient must reside in HITH catchment area (approx. 30 mins from Ipswich Hospital) or willing to attend HITH clinic in Ipswich Hospital









Preventative Integrated Care Service (PICS)

A community service that aims to reduce **avoidable admissions** and **re-admissions** in patients with **chronic diseases**, by:

- Confirming diagnosis and providing rapid access to sub-specialists (Consultants and NP's across respiratory, cardiology and endocrinology)
- Rapid assessment and intervention
- Treating exacerbations (timely intensive follow-up)
- Identifying and treating co-morbidities
 (multidisciplinary approach across specialties)
- Addressing psycho-social issues and optimising function (full suite of senior allied health and nursing clinicians)

...in a safe way





How does this work?

- 24-48 hours from triage to first contact
- Adults only (no paeds) aim maximum 16 day episode of care
- Medical, nursing, allied health team
 - Physiotherapist, dietitian, pharmacist, occupational therapist, social work, podiatry.
- Standalone clinic at East Street (50m from Ipswich Hospital)
- Telehealth, remote biometric monitoring, home visiting services
- If referred as inpatient must be sufficiently stable to be home without support for 24-48 hours
- Includes entire West Moreton Health catchment





Inclusion

Confirmed diagnosis of:

- Cardiovascular disease and risk factor management
- Heart failure confirmed with one of:
- ECHO with EF <50%, diastolic dysfunction, elevated RVSP >30, moderate/severe structural or valvular disease
- Atrial fibrillation/flutter

- Cardiac exclusions
- Breathlessness at rest due to heart failure, or signs/ symptoms of pulmonary oedema
- Unstable

Triage – 0409 594 866

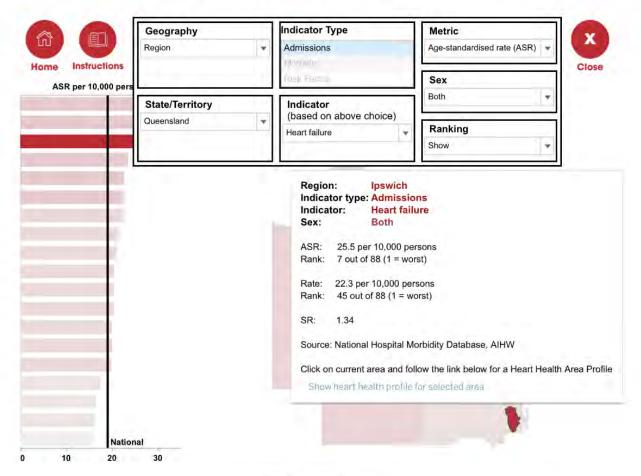
Phone 3447 2744





Interactive Australian Heart Maps

Compare heart health indicators across Australia



ASR per 100 cm and











Exercise Program

Stay active. Stay healthy. Strengthen your heart.

When:

Tuesdays & Thursdays 11:00 AM Session 12:45 PM Session

Where:

37 South Street, Ipswich

Join our supervised 12-week exercise program designed to improve heart health, boost energy, and enhance your well-being.

Ipswich Heart Failure Service 07 3447 2866

Heart Failure service

- All patients over the age of 16 years with diagnosis of heart failure
- Case management clinical nurse with access to Nurse practitioner and allied health staff, pharmacist, psychology, social work
- Gym
- Focus on self-management strategies
- Heart Health Hub

Referral

- » WM HFS@health.qld.gov.au
- » 3447 2866 or 0439 663 420





Queensland Government		URN:	(Affix identifi	cation tabel here)			
1-00-000			7.77				
Heart Failure (HF) Medication Optimisation Plan		Family name:					
		Given name(s): Address: Date of birth: Sex: M F					
Facility:							
							Dear
Please opti	mise this patient's heart fai	lure medications a	and call the number	er below if there	are any concerns	L.	
Recent	EF %	Weight (kg)	Weight (kg) eGFR mL/min K+ m		mmol/L BP mmHg HR bpm		
results	Date						
Check to ACEI/A (If K* is SGLT2i Diuretic	g recommendations (see allood pressure (BP) includi RB/ARNI/MRA*: check sen high recheck in 48 hours). *: before commencing che- t dose changes beyond 3 d der Hb*, CRP*, femilin & trai	ng postural drop a um potassium (K' For MRAs check e ck volume status a ays require medic	and neart rate (HR), premail function 1- every 4 weeks for and for type 1 diab al review and che-	2 week/s after of 12 weeks, at 6 etics seek endo sking of blood o	months, then 6-mo ocrinologist approv hemistry and volu	onthly val me status	
	ig classes that reduce ure mortality & morbidity		herapy is more e		single medication	on at a higher	
Class*	Medication name	Current dose/ frequency	Target dose/frequency		Schedule / L		
ACEI ARB ARNI		mg.	mg	Washout for	art F	week(s	
Beta- blocker	☐ Bisoprolol ☐ Carvedilol ☐ Metoprolol XL ☐ Nebro	he	alth	He	mg every	week(s	
MR	ale	7	mg	increase dos medications.	e once stable on o	other heart failure	
G	091	mg	A transient fall in eGFR (up to 30%) is common and not usually clinically significant. Withhold if perioperative or unwell/fasting.				
	s that provide symptom	relief					
				Adjust diuretic dose according to clinical assessment (e.g., increase dose 50 –100% if fluid overloaded)			
Diuretic				ncrease dose 5	0 -100% if fluid or		
ron		action plan en). dies (see monitori	(e.g., i (oral rig above). Give a	iron is ineffectiv	e with heart failur	e) an100 µg/L	
Diuretic iron infusion Notes:	☐ Patient has a diuretic Date of infusion (if giv ☐ Please check iron stu	action plan en). dies (see monitori	(e.g., i (oral rig above). Give a	iron is ineffectiv	we with heart failung if ferritin is less that I if unable to provi	e) an100 µg/L de infusion	
ron Infusion	Patient has a diuretic Date of infusion (if giv Please check iron stu or 100-299 µg/L with	action plan en). dies (see monitori	(e.g., i (oral rig above). Give a	iron is ineffectiv	e with heart failur	e) an100 µg/L de infusion	
ron Infusion Notes:	Patient has a diuretic Date of infusion (if giv Please check iron stu or 100-299 µg/L with	action plan en). dies (see monitori	(e.g., i (oral rig above). Give a	iron is ineffectiv	we with heart failung if ferritin is less that I if unable to provi	e) an100 µg/L de infusion	

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Estimated Giomerular Filtration Rate (eGFR)

Queenslan Governmen

Heart Failure (HF) Medication Optimisation Plan

	(Affix identifica	ation label her	e)	
URN:				
Family name:				
Given name(s):				
Address:				

Medications that may cause or worsen HF

Non-steroidal anti-inflammatories, cyclooxygenase-2 inhibitors; centrally acting calcium channel blockers (verapami, dilitazem), corticosteroids, tricyclic antidepressants, saxagliptin, moxonidine, thiszolidineoles (glitazones)

Hypotension

Facility:

Asymptomatic hypotension usually requires no change in therapy (unless systolic BP is consistently less than 90mmHq).

Symptomatic hypotension

. Stop or redus

optimise

dose if above measures do not work.
ad abrupt cessation of beta blockers unless
patient is in shock".

- Review patient within a week and seek specialist advice if the above measures do not work.
- For severe hypotension or shock, refer to hospital emergency department (ED).

Worsening renal function

Cautions for renal function

- Caution with ARNI if eGFR is less than 30mL/min.
- eGFR does not accurately reflect renal function where body weight is very low (tending to overestimate) or when volume change is rapid.
- Where there is severe dehydration, sepsis, or medication induced nephrotoxicity refer to ED. Consider withholding MRA first, then SGLT2t, followed by ACEI, ARB or ARNI until patient is reviewed.

After commencing or titrating therapy:

- Expect a rise in creatinine, urea, and potassium (K+) for ACEI, ARB, ARNI, or MRA. A decline in eGFR up to 30% is acceptable if it stabilises within 2 weeks (or 4 to 12 weeks for SGLT2).
- If eGFR declines by more than 30%, review fluid status and nephrotoxic medications and seek specialist advice about safety of continuing therapy.

Congestion or peripheral oedema

- Increase the diuretic dose, then gradually reduce beta-blocker dose (avoiding abrupt cessation).
- Liaise with the heart failure service and review the patient daily or weekly (as appropriate).
- Seek specialist advice if symptoms do not improve.
 If deterioration is severe, refer patient to ED.

Bradycardia

Date of birth:

- Where HR is less than 50 beats per minute, and the patient is on a beta-blocker, review the need for drugs that slow heart rate (e.g., digoxip in consultation with specialist; as exclude heart block.
- Consider

n plan

.....

Sex: M F II

for ACEI, ARB, ARNI and MRA. Urgently check K+, eninine and urea for dehydration or sepsis.

If serum K+ is:

- 5.0–5.5 mmol/L reduce or withhold K+ supplements and check diet
- 5.6–5.9 mmol/L perform ECG and withhold K+ supplements and reduce K+ retaining agents especially MRAs (less so for ARNI, ACEI & ARB)
- 6 mmol/L or more, urgently seek specialist advice
- · Recurrently high, seek specialist advice

Volume depletion

SGLT2i, MRA and ARNI have a mild diuretic effect. Assess volume status before commencing or adjusting doses and reduce the dose of loop diuretic in euvolaemic patients if required.

Cough

- Exclude pulmonary oedema or reflux as a cause if cough is new or worsening.
- Only stop implicated drugs if cough is not tolerable and consider substituting ACEI with ARB or ARNI.

Angioedema (rare)

- Stop ACEI, ARB, or ARNI immediately, and consider referral to an immunologist.
- If there is a history of ACEI related angioedema, seek specialist advice before triailing ARB due to possible cross-sensitivity.
- · Avoid ARNI if angioedema is due to ACEI or ARB.

Euglycemic ketoacidosis (rare)

SGLT2I increase the risk of ketoacidosis in diabetic patients. Endocrinologist review is advised before commencing in patients with type 1 diabetes. The risk increases when the patient has missed or reduced insulin doses, is fasting, perioperative, on a kefogenic diet, dehydrated, or has vomiting or diarrhoea.

This guide is not intended to replace clinical judgment

Queensland	(Affix identification label here)				
Government	URN:				
Heart Failure	Family name:				
Fluid Action Plan	Given name(s):				
	Address:				
Facility:	Date of birth: Sex: M F I				
P	Patient information				
This plan will guide you on how to fine-tune yo symptoms change.	ur dose of diuretic (fluid tablet) when your weight or other				
Diuretic (fluid tablet) is:	One tablet =mg				
Daily fluid limit is:					
Well (dry) weight range is:	kgs with no worsening of swelling or breathing				
	tablet/s in the morning				
Your usual fluid tablet dose: (note number of diuretic tablets and time of da	tablet/s at lunch				
(note named of dialect tables and and of de	tablet/s (details)				
	tablevs (ustalis)				
If your weight goes OVER kg in AND / OR breathing is hard, or you have	Dehydration II your was a second of the control of				
If your weight goes OVER kg in AND / OR breathing is hard, or you have your feet or legs. or Take: tablet/s in the tablet/s at lunch	days If your uncertainty of dizzy than usual, mave diarrhoea or vomiting Take: tablet/s in the morning tablet/s at lunch				
If your weight goes OVER kg in AND / OR breathing is hard, or you have your feet or legs, or tablet/s in the tablet/s at lunch tablet/s (other	days If your use the state of t				
AND / OR breathing is hard, or you have your feet or legs, or you have your feet or legs, or tablet/s in the tablet/s at Junch tablet/s was a labelet to legs to your usual tablet do if changes to your usual dose are needed for mose your regular GP OR	Take: tablet/s in the morning tablet/s at lunch tablet/s (other)				
If your weight goes OVER kg in AND / OR breathing is hard, or you have your feet or legs, or your feet or legs, or tablet/s in the tablet/s at lunch tablet/s (other Return to your usual tablet do if changes to your usual dose are needed for its contraction.	Take: tablet/s in the morning tablet/s at lunch tablet/s (other)				
AND / OR breathing is hard, or you have your feet or legs, or you have tablet/s in the tablet/s at lunch tablet/s (other Return to your usual tablet do if changes to your usual dose are needed for rise your regular GP OR	Take: tablet/s in the morning tablet/s at lunch tablet/s (other)				
AND / OR breathing is hard, or you have your feet or legs, or your feet or legs, or tablet/s in the tablet/s at lunch tablet/s at lunch tablet/s (other Return to your usual tablet do if changes to your usual dose are needed for reservoir regular GP OR Contact:	Take: tablet/s in the morning tablet/s at lunch tablet/s (other)				
AND / OR breathing is hard, or you have your feet or legs, or you have your feet or legs, or tablet/s in the tablet/s at Junch tablet/s was a labelet to legs to your usual tablet do if changes to your usual dose are needed for mose your regular GP OR	Take: tablet/s in the morning tablet/s at lunch tablet/s weight again				
AND / OR breathing is hard, or you have your feet or legs, or your feet or legs, or tablet/s in the tablet/s at lunch tablet/s (other Return to your usual tablet do off changes to your usual dose are needed for mose your regular GP OR Contact:	Take: tablet/s in the morning tablet/s at lunch tablet/s (other)				
AND / OR breathing is hard, or you have your feet or legs, or you have your feet or legs, or tablet/s in the tablet/s at lunch tablet/s (other Return to your usual tablet do if changes to your usual dose are needed for its See your regular GP OR Contact:	days If your well (dry) weight again more than 3 days, please:				
AND / OR breathing is hard, or you have your feet or legs, or your feet or legs, or tablet/s in the tablet/s at lunch tablet/s (other Return to your usual tablet do off changes to your usual dose are needed for mose your regular GP OR Contact:	days If your well (dry) weight again more than 3 days, please:				

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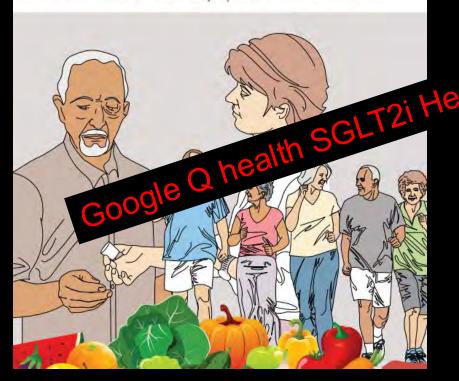
Queensland	(Affix identification label here)			
Government	URN: Family name:			
Heart Failure				
Fluid Action Plan	Given name(s): Address:			
Facility:	Date of birth: Sex: M F			
Fluid Wat	chers not Weight Watchers!			
When your heart doesn't pum	p properly, your body we keep fluid. This			
causes you to put on fluid wei				
causes you to put on hale were	git. None			
Keep track of your change	each day.			
» Action	Olc.			
v ctlo	Weigh yourself Write down your weight			
a ire Aus	• • • • • • • • • • • • • • • • • • •			
weight can change	over time. There are many reasons for this			
	d intake or exercise. If your well (dry) weight has			
changed please see your doct	tor or nurse so they can adjust your plan.			
Die	uretics (fluid tablets)			
Medicines that help you lose f	fluid are called diuretics. Some people call them			
fluid tablets, water pills or by a	a brand name. The tablets take 30 minutes to			
work and make you pass urine	e for about 6 hours.			
Try taking your diuretics (fluid	tablets) at the same time of day. You can			
sometimes delay or skip a dos	se to fit in with an outing but try not to do this too			
often.	A real reservations and an arrangement of the second			
While fluid tablets help to man	nage your breathlessness and swelling, they will			
	on. This means that not everyone needs a fluid			
	s can be increased, decreased, or even stopped			
as your weight or other sympt	the second control of the second			
	ons diange.			
Other instructions:				

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Living well with heart failure

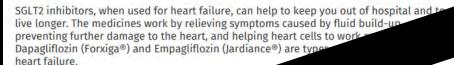
Information to help you feel better



Oueensland Health

Sodium-glucose co-transporter-2 (SGLT2) inhibitors for heart failure

Patient information



Your SGLT2 inhibitor: (name/brand)

Possible side off	ure sick day	Actions to take
art Fa	mouth, tiredness, and canness (more than usual).	Make sure you have enough fluid (within your fluid limits), and see your doctor if symptoms continue.
Thrush	Genital area itch.	Prevent infection* but if symptoms appear contact your doctor.

^{*}Prevent thrush infections by washing the genital area at least once a day (when showering) and always wear clean underpants.

Sick day rules, surgery and SGLT2 inhibitors

There is a rare risk of developing ketoacidosis (especially if you have diabetes). Ketoacidosis is when your blood becomes too acidic and is dangerous if left untreated. Symptoms include nausea, vomiting, dehydration, or difficulty breathing. To reduce the risk of ketoacidosis and severe dehydration, follow the sick day rules:



STOP (temporarily) your SGLT2 inhibitor when you are unwell (vomiting, diarrhoea, fever) or not eating or drinking normally.

If you have surgery planned, check with your doctor to see if you need to stop your SGLT2 inhibitor beforehand.



Look out for symptoms of dehydration, passing more urine than usual and tiredness. Please see your doctor if you have these symptoms.



Restart the SGLT2 inhibitor when you are feeling better and able to eat and drink normally for 24 to 48 hours.

Cardiac rehabilitation

- Patients who have had a recent MI (i.e. within 6 months)-ACS-NSTEMI/STEMI. Stable angina.
- Patients who have had a recent Cardiac Intervention e.g., PCI/Stent;
 CABG; Valvular surgery, open heart surgery
- Moderate to Severe CAD for medical management.
- Non obstructive CAD or mild CAD with a definite diagnosis of ACS.
- Focus on returning to pre-morbid activities- work, activity.
- Patients can be supported by Nurse practitioner for medication optimisation, risk factor management

CardiacRehablpswich@health.qld.gov.au

3447 2860





- Mūrrūmba Targan Djimbulung Service
- Provides wrap-around health and well-being support to First
 Nations adults who live in West Moreton and experience chronic
 health issues, such as diabetes and ongoing heart and lung issues.
- Improved engagement with outpatients
- Expanding service. New clinic out of Laidley
- Free exercise sessions at the Deadly Steps Together Gym
- For more information, email <u>WM_MTDS@health.qld.gov.au</u> or call <u>3447 2717</u>.
- Health Pathways
- Referral portal
- https://westmoreton.communityhealthpathways.org/





				west
LDL-cholesterol Type 2 diabetes	Hypertension	Cigarettes	Overweight	Triglycerides
<1.4mmol/L A1c ~7%	sBP ~120mmHg	Cessation	Aim healthy BMI ~ 21kg/m2	~1.7mmol/L
Initial LDL <3 mmol/L maximally tolerated statin Initial LDL >3 mmol/L maximally tolerated statin and ezetimibe Repeat LDL-C at (3 months and if not at target consider PCSK9 Inhibitor 4.Statin Intolerance: Consider bempedoic acid and ezetimibe If LDL > than 5 mmo/L or DLSC score > 4 initiate family cascade	vith regimen with ACE/ARB and y with consider /or combination therapy early	Consider nicotine replacement Champix or Zyban	150mins of moderate vigorous physical activity per week. Lifestyle interventions: time-restricted eating, intermittent fasting or meal replacements. Consider use of semaglutide to reduce adverse CV events	If TG>1.7mmol/L despite statin use, consider use of Omega 3 FA such as icosapent ethyl 2g BD





Outpatient Clinics

- 4.5 FTE Consultant Staff Imaging, intervention and Heart Failure
- 10 outpatient clinics per week (not including 3 PICS clinics)
- Outreach clinics to Gatton, Boonah, Esk, IUIH Goodna
- Specialist multidisciplinary heart failure clinic
- >3500 referrals per year





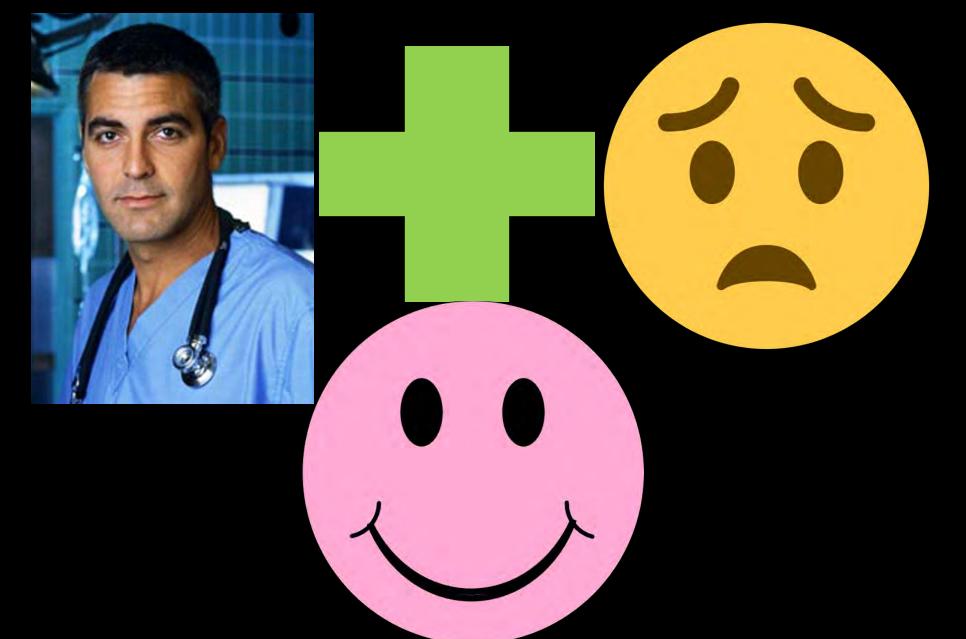
WMHHS Cardiology future state

- Infrastructure
 - -2027 new build
 - 14 bed CCU and additional ward and recovery beds
 - 2 cardiac cath labs
 - Dedicated imaging centre
- Relationships
 - Cohesion from hospital ←⇒ GP←⇒home
- Research and engagement





Approaches to therapy – Aligning goals





GPs, Community
nurses, nurse
practitioners,
exercise
physiologists,
pharmacists,
psychologists, social
workers, palliative
care

