General Practitioner Symposium

— WEST MORETON — 2025 —

12:45pm – 1:25pm

Cardiology Update

Dr Johanne Neill

Symposium organisers

Australian Government

phn DARLING DOWNS AND WEST MORETON

An Australian Government Initiative

West Moreton Health

Queensland Government

Got a question?
LOG IT HERE:

WMHHS Cardiology update

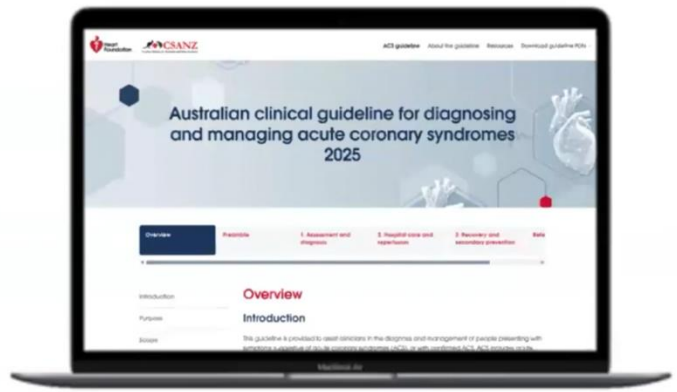
2nd August 2025

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

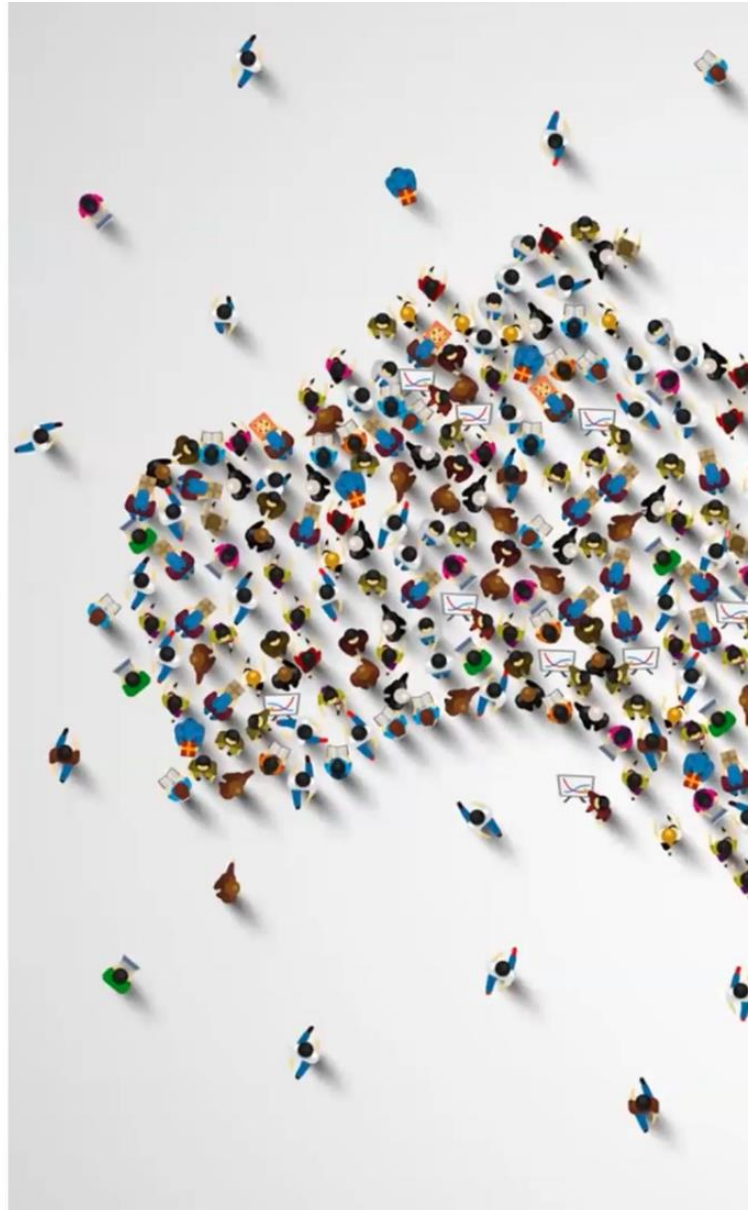
Resources



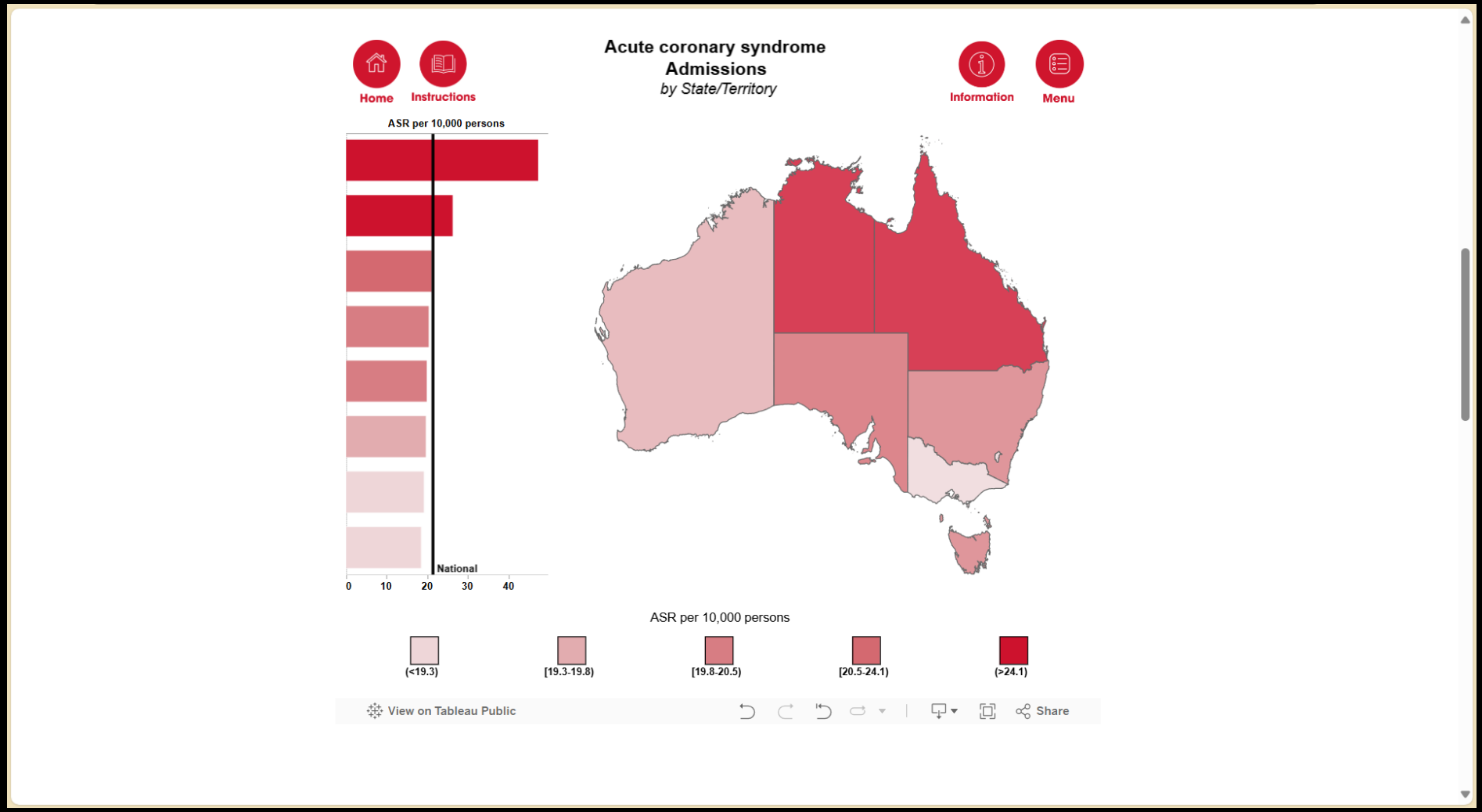
heartfoundation.org.au/
for-professionals/acs-guideline

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.

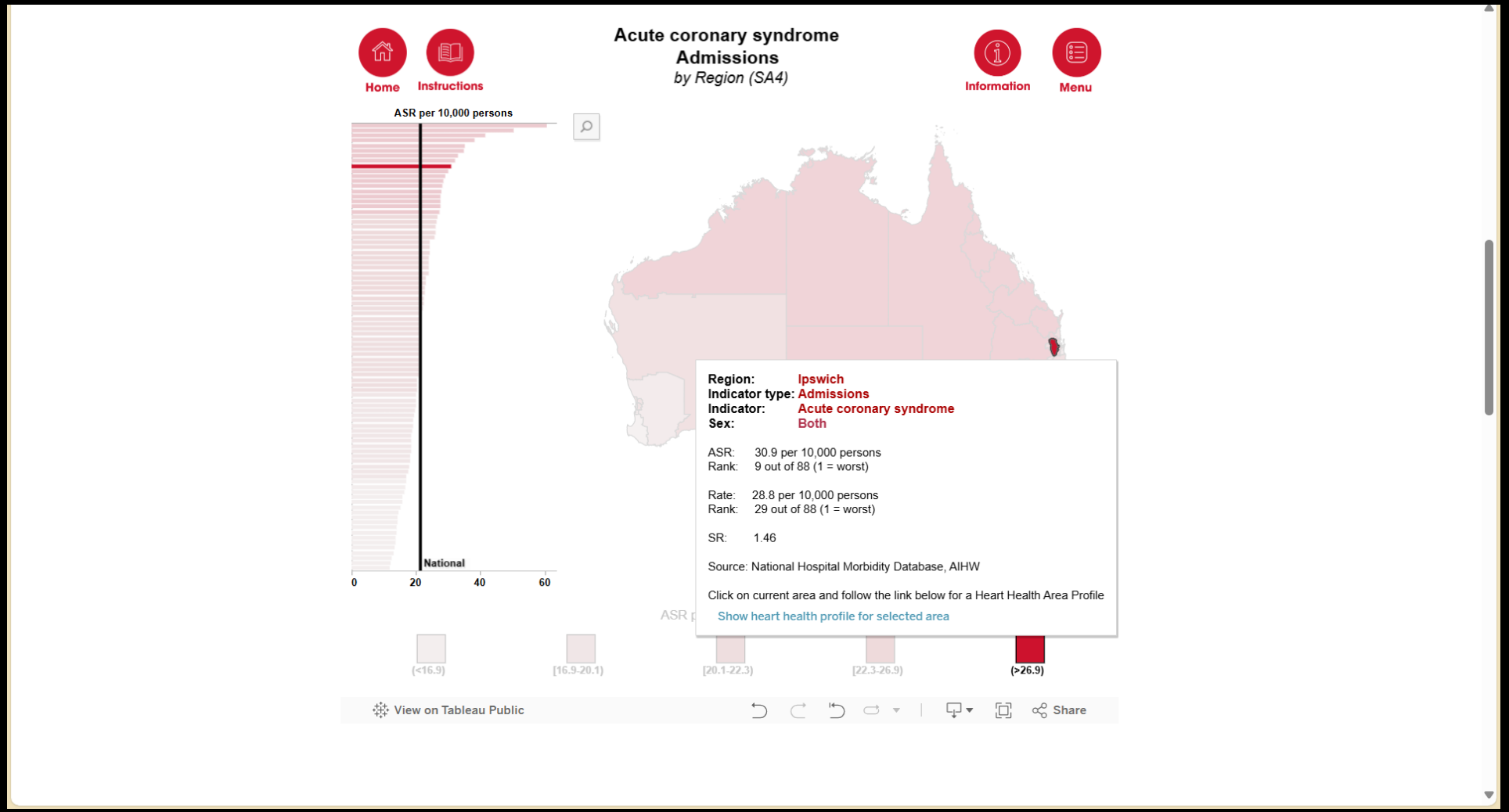


ACS QLD



Second only to NT for ACS admission rate

ACS Ipswich


Home
Instructions
Acute coronary syndrome
Admissions
by Region (SA4)
Information
Menu
ASR per 10,000 persons
National
0
20
40
60
Region: Ipswich
Indicator type: Admissions
Indicator: Acute coronary syndrome
Sex: Both
ASR: 30.9 per 10,000 persons
Rank: 9 out of 88 (1 = worst)
Rate: 28.8 per 10,000 persons
Rank: 29 out of 88 (1 = worst)
SR: 1.46
Source: National Hospital Morbidity Database, AIHW
Click on current area and follow the link below for a Heart Health Area Profile
Show heart health profile for selected area
(<16.9)
[16.9-20.1)
[20.1-22.3)
[22.3-26.9)
(>26.9)
View on Tableau Public
Share

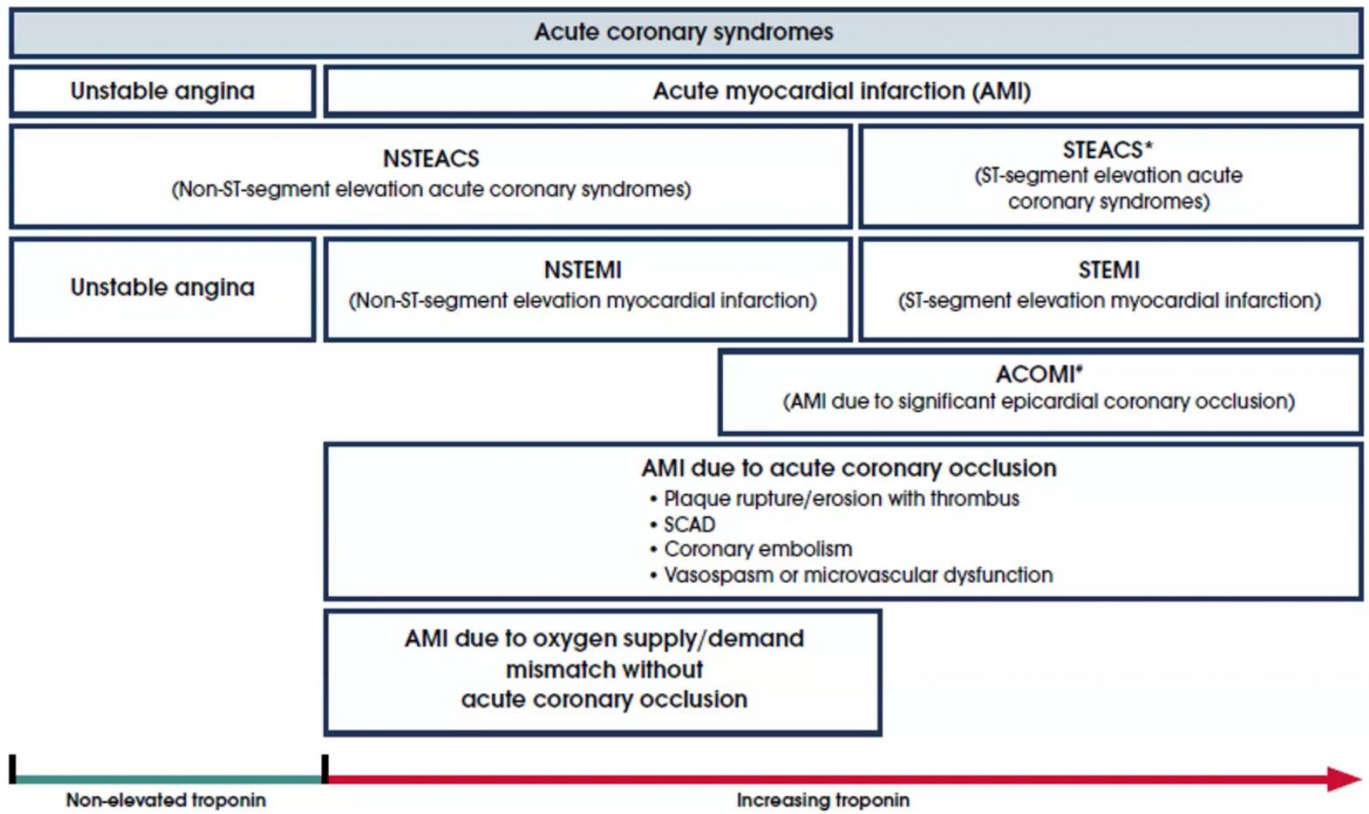
Assessment & Diagnosis

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

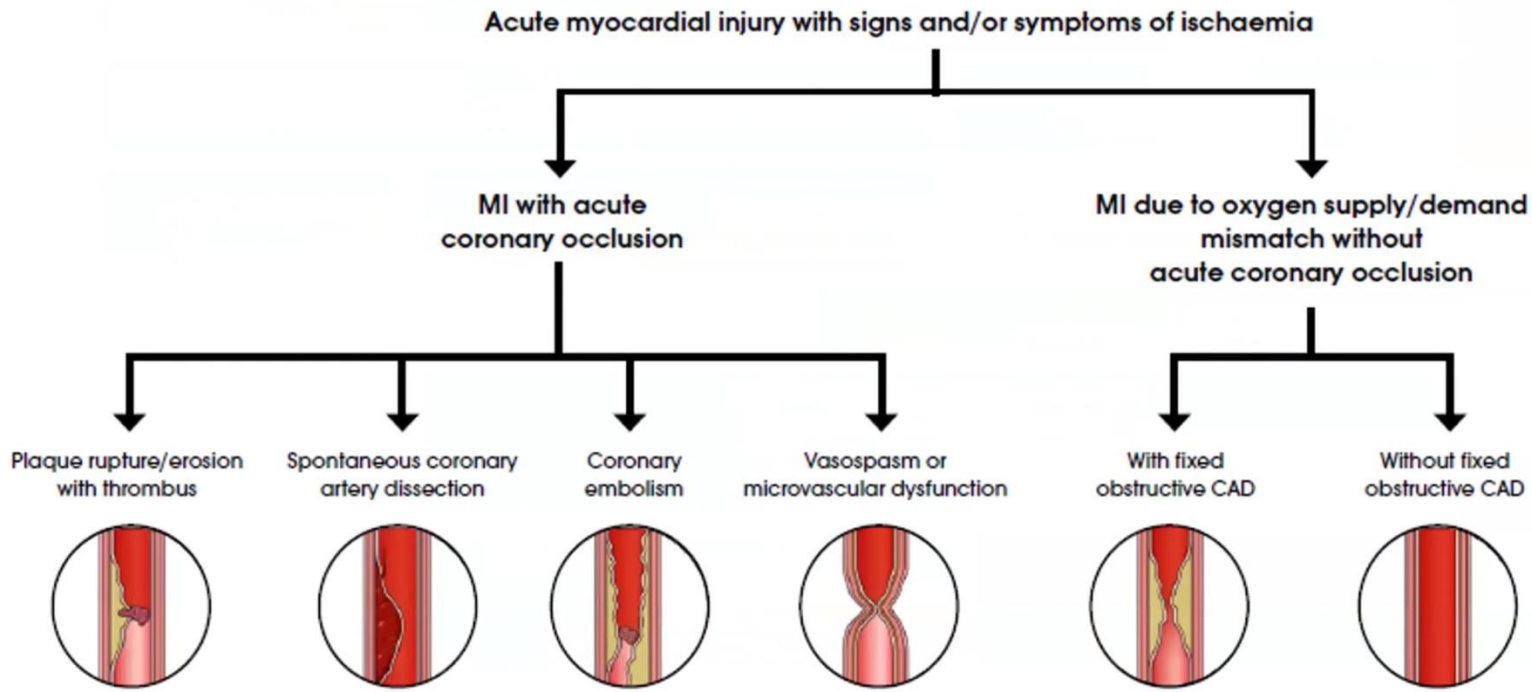
Assessment & Diagnosis

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.

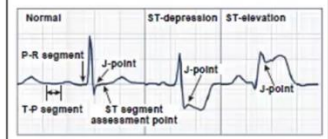
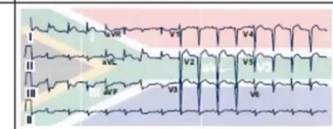
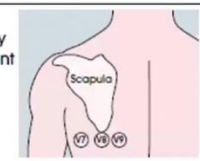
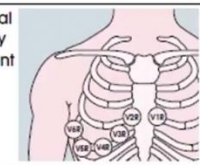
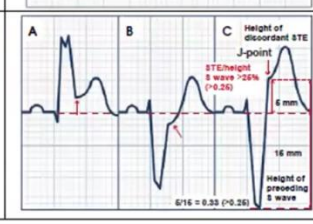
Revised classification of MI



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

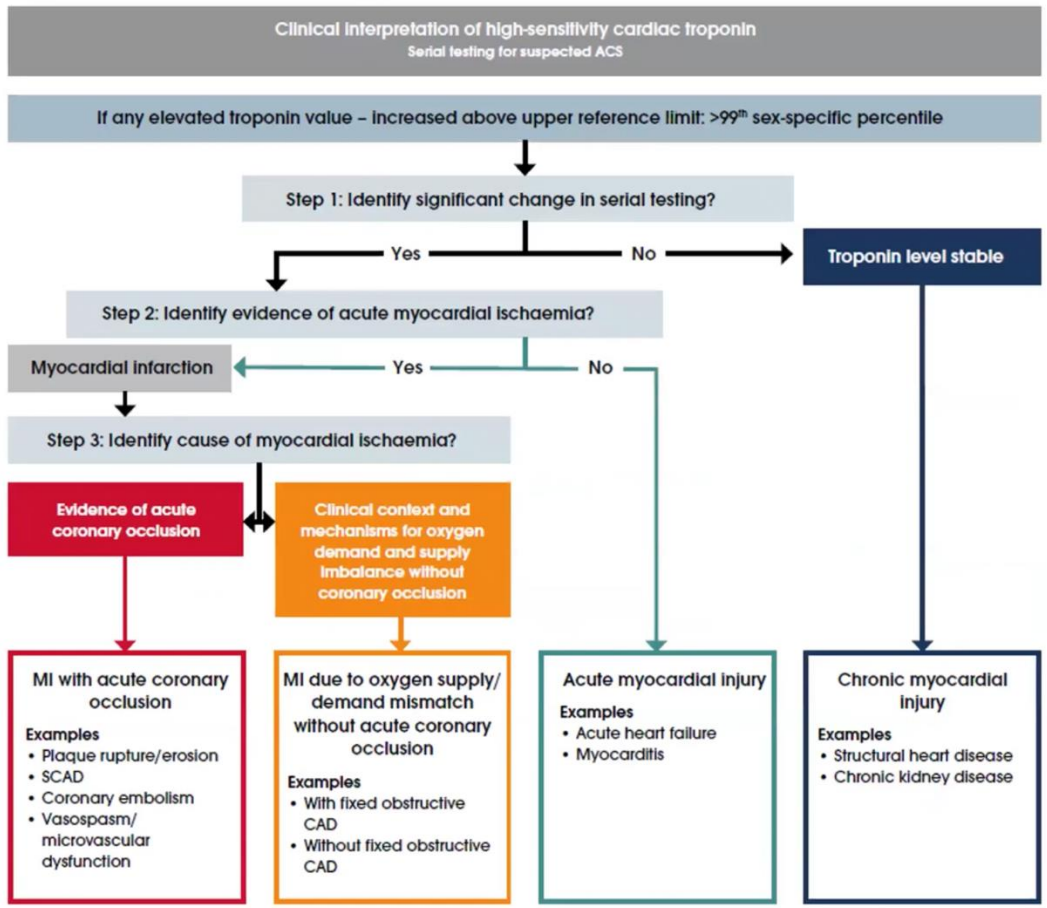
ECG findings of acute coronary occlusion MI (ACOMI)

- 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		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 (≥0.5 mm) in aVR and an absence of STE in precordial leads.		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%.		Activate reperfusion pathway

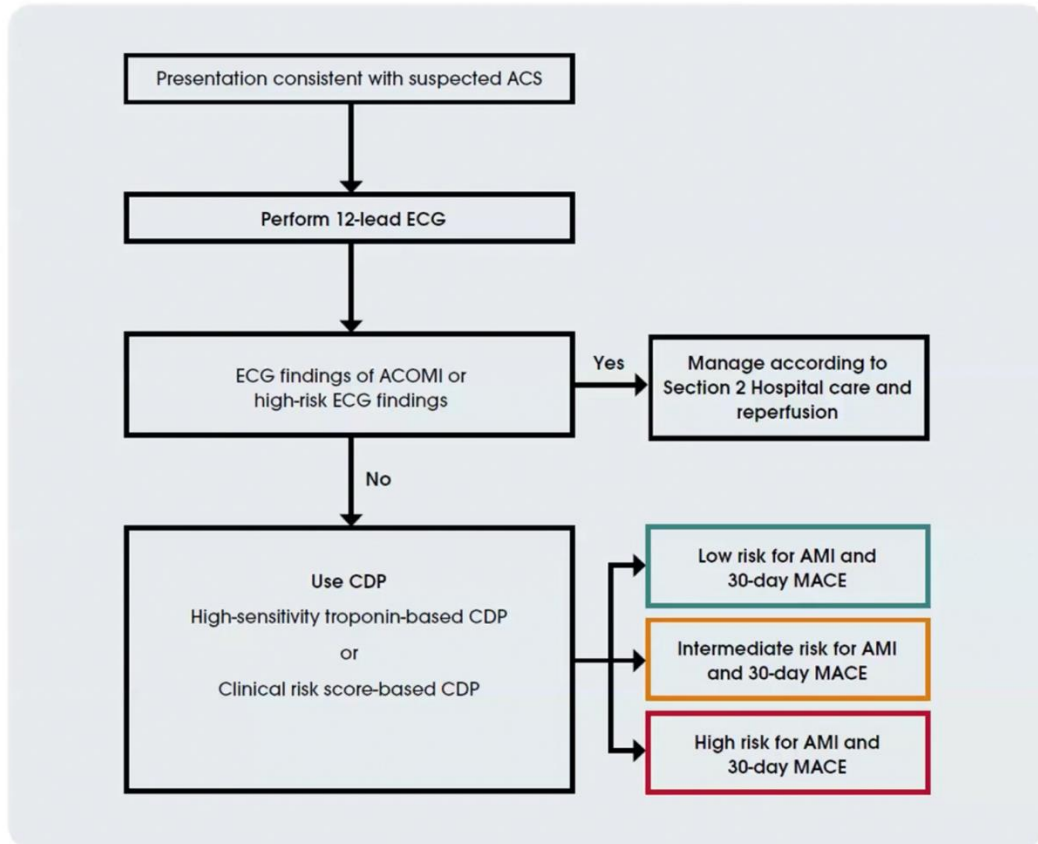
Assessment & Diagnosis

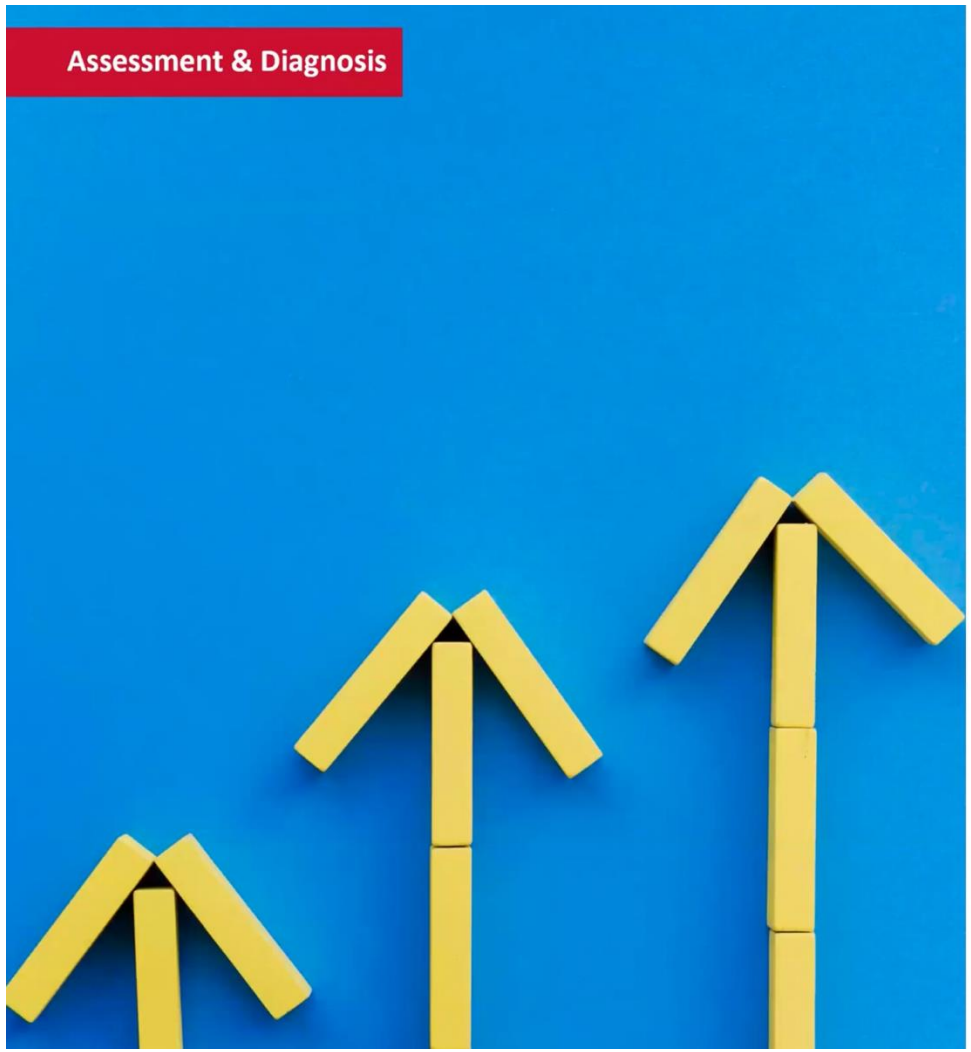
Interpreting high-sensitivity cTn results



- 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 process for suspected ACS





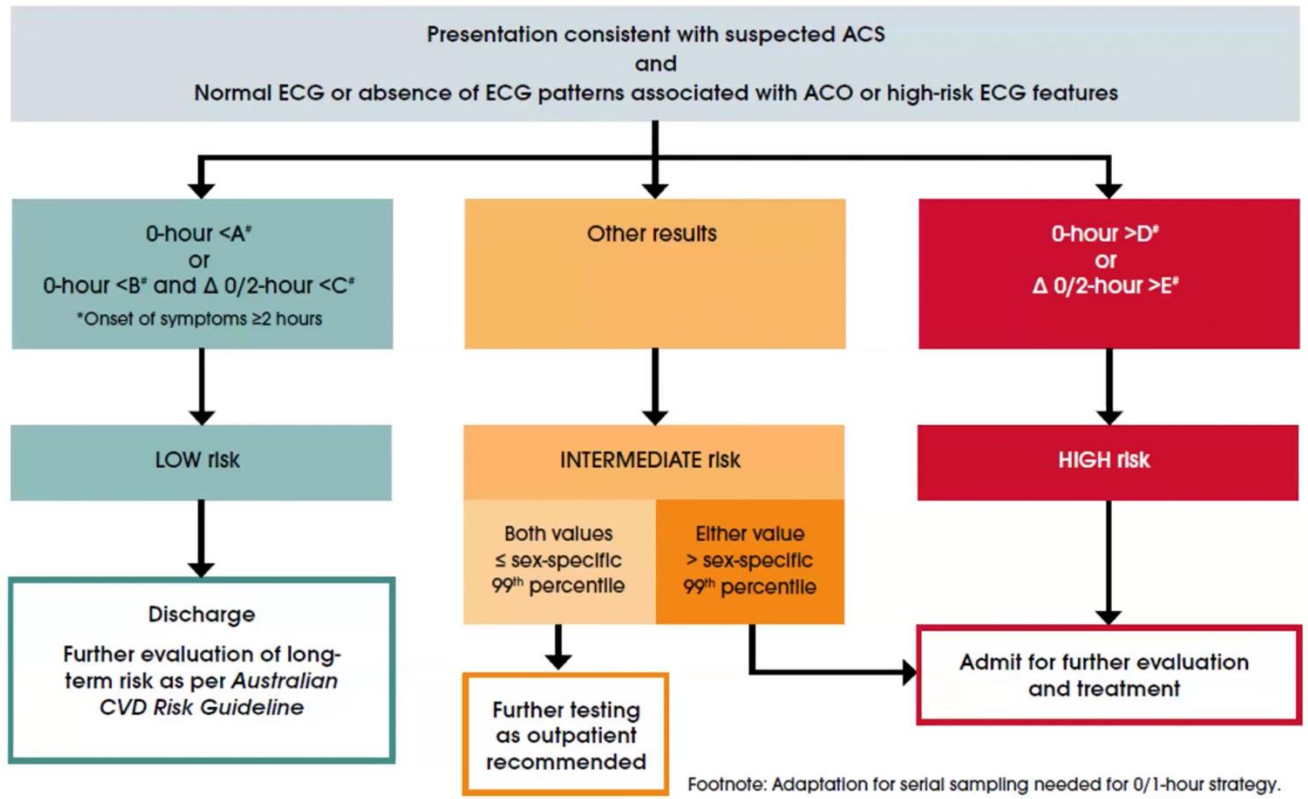
High-sensitivity troponin-based CDP

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.

High-sensitivity troponin-based CDP:
0/2-hour testing

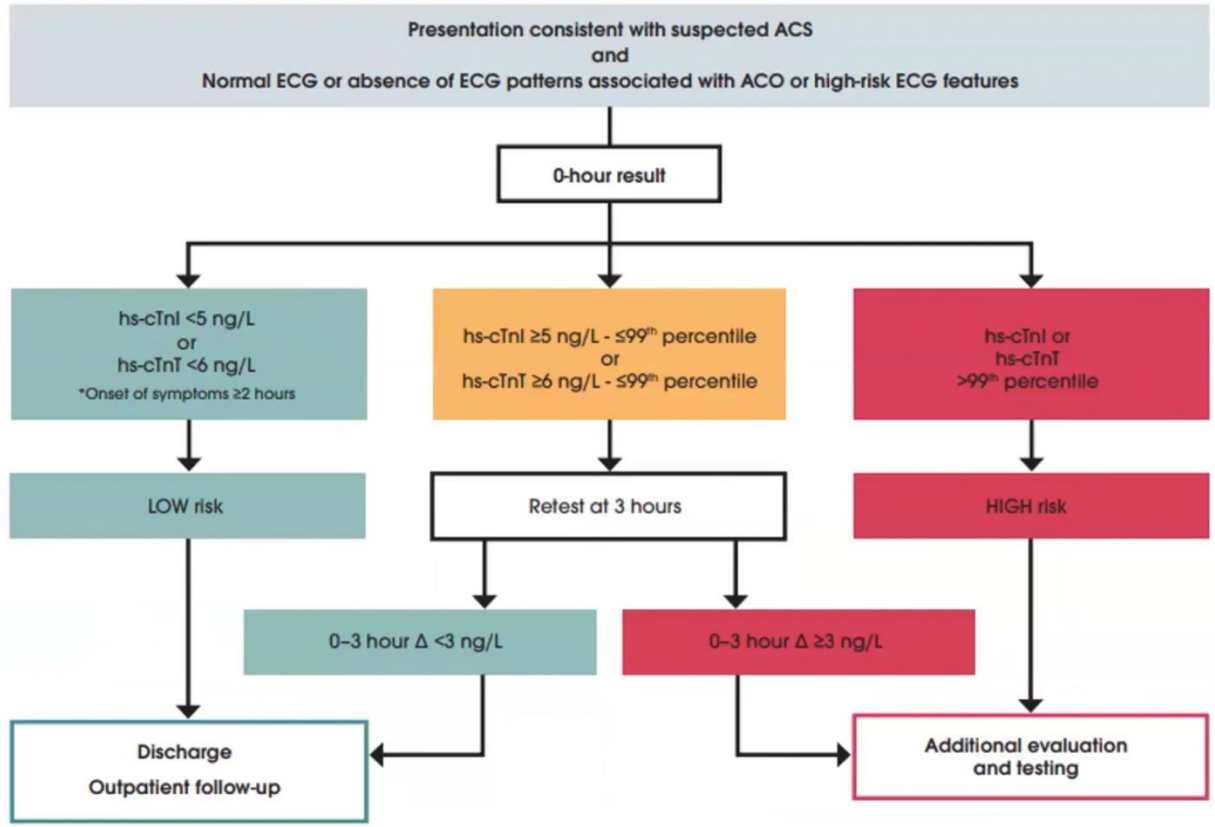
Assessment & Diagnosis



Footnote: Adaptation for serial sampling needed for 0/1-hour strategy.

*All people with symptom onset <2 hours need serial testing.
People with ongoing symptoms should be assessed according to high-risk criteria.

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)

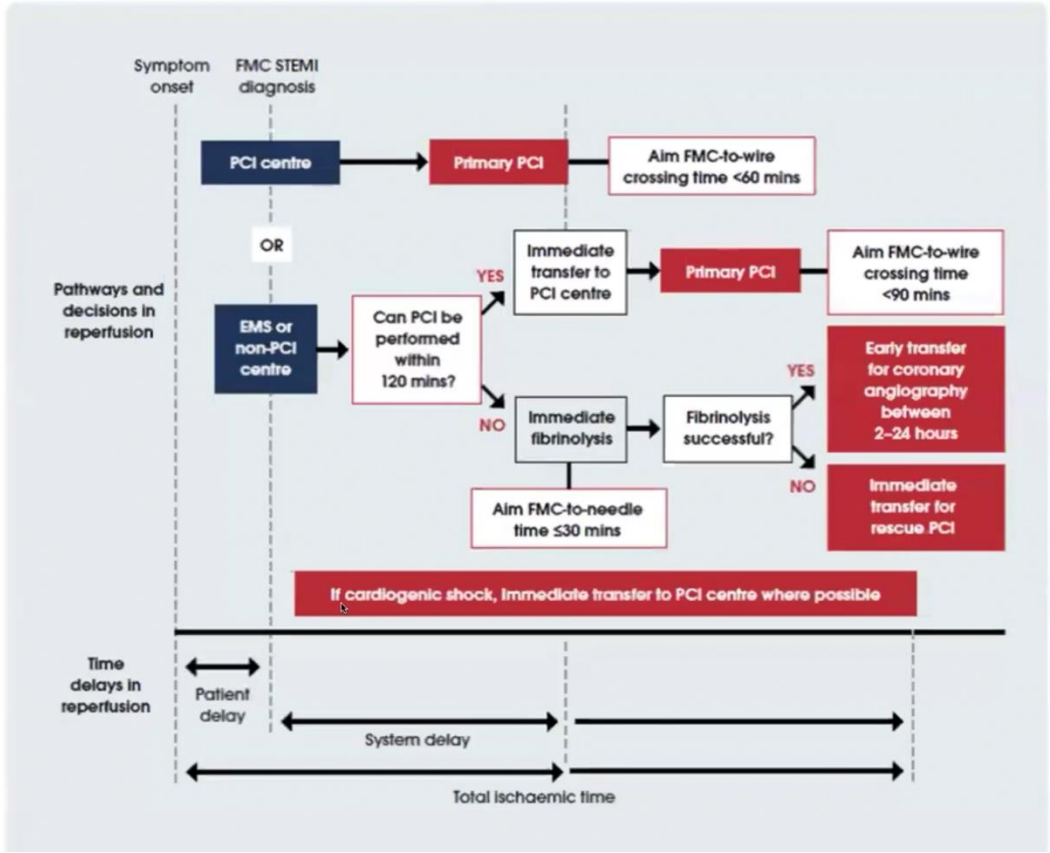
- prompt assistance with ECG interpretation and access to troponin results when on-site access is not available
- provision of clinical advice to healthcare professionals
- access to cardiac investigations if required.

Hospital care and reperfusion

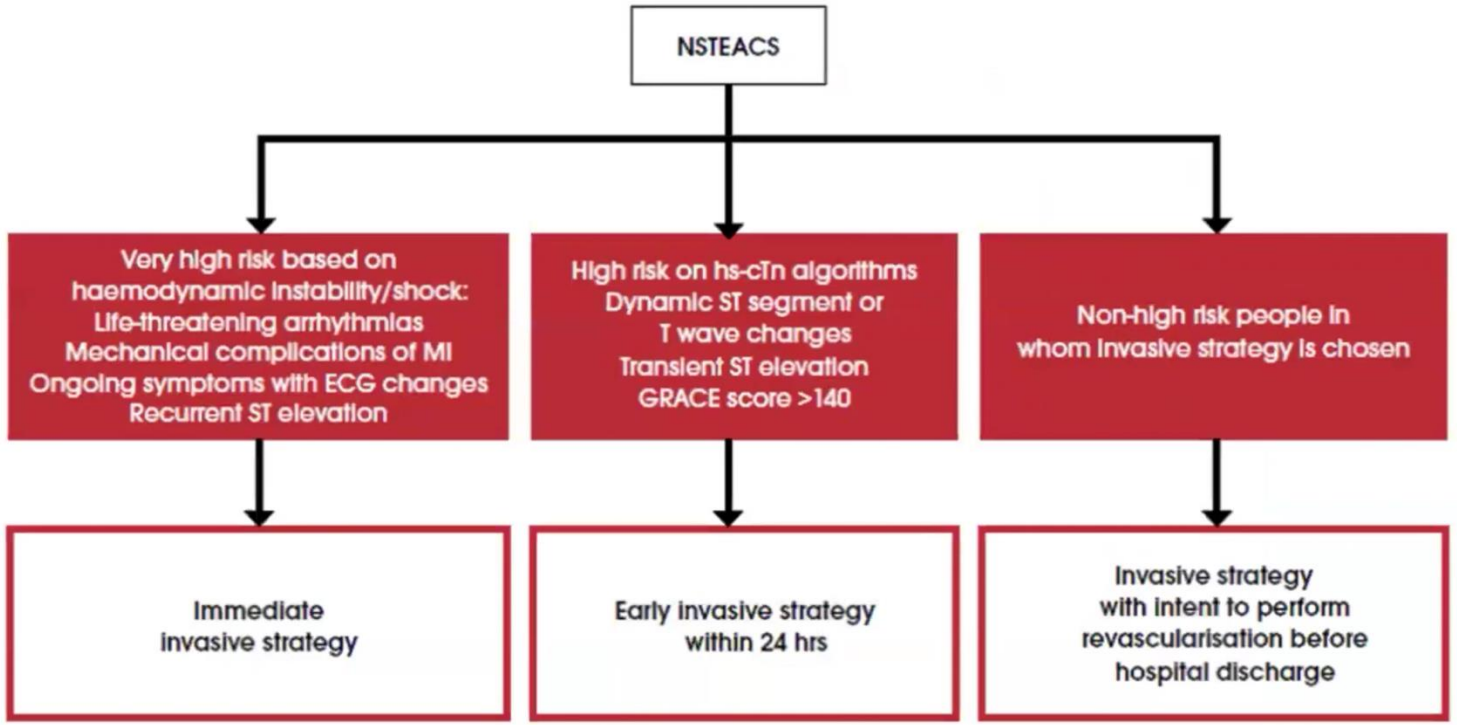
- Whats new?
- Acute STEMI management
- Acute NSTEMI management
- SCAD management
- Management of ACS with shock or cardiac arrest
- Management of ACS with mutivessel disease
- Antiplatelet regimen

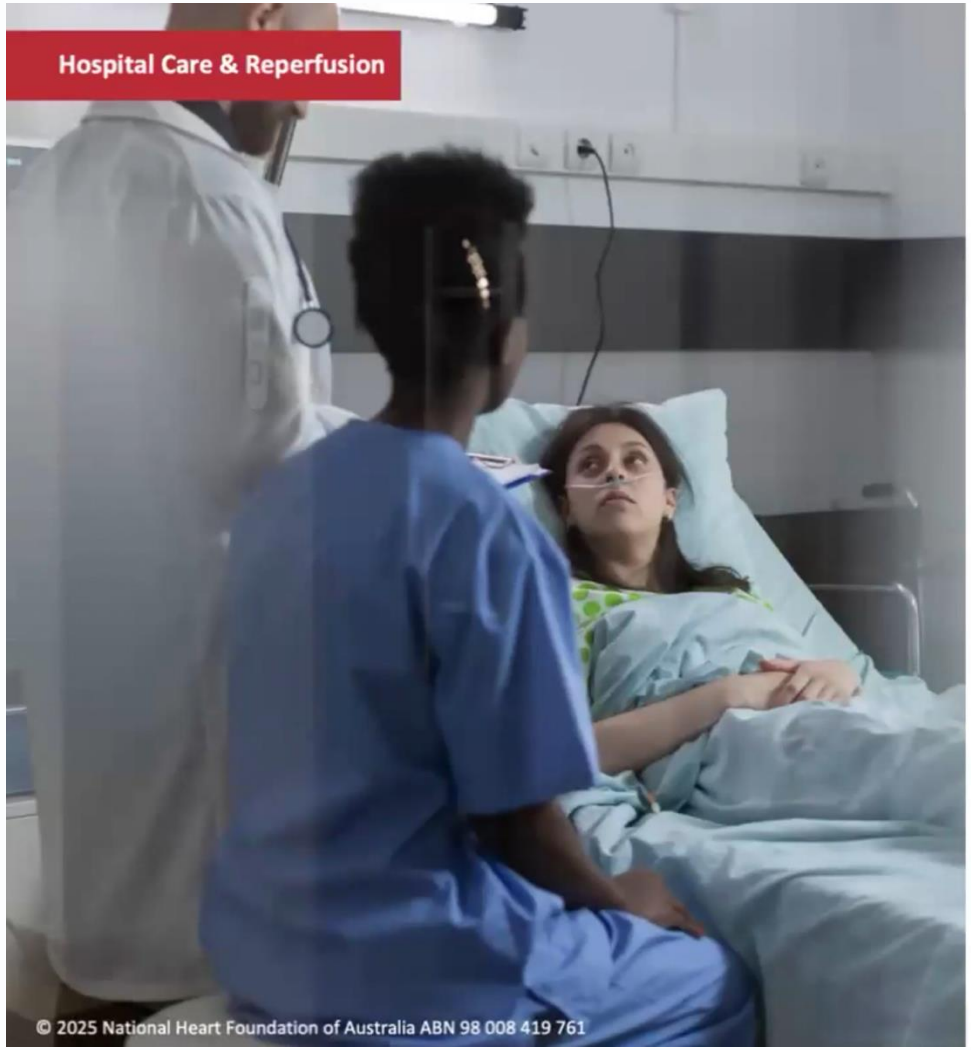
Acute management of STEMI:
Choice & timing of reperfusion strategy

Hospital Care & Reperfusion



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)

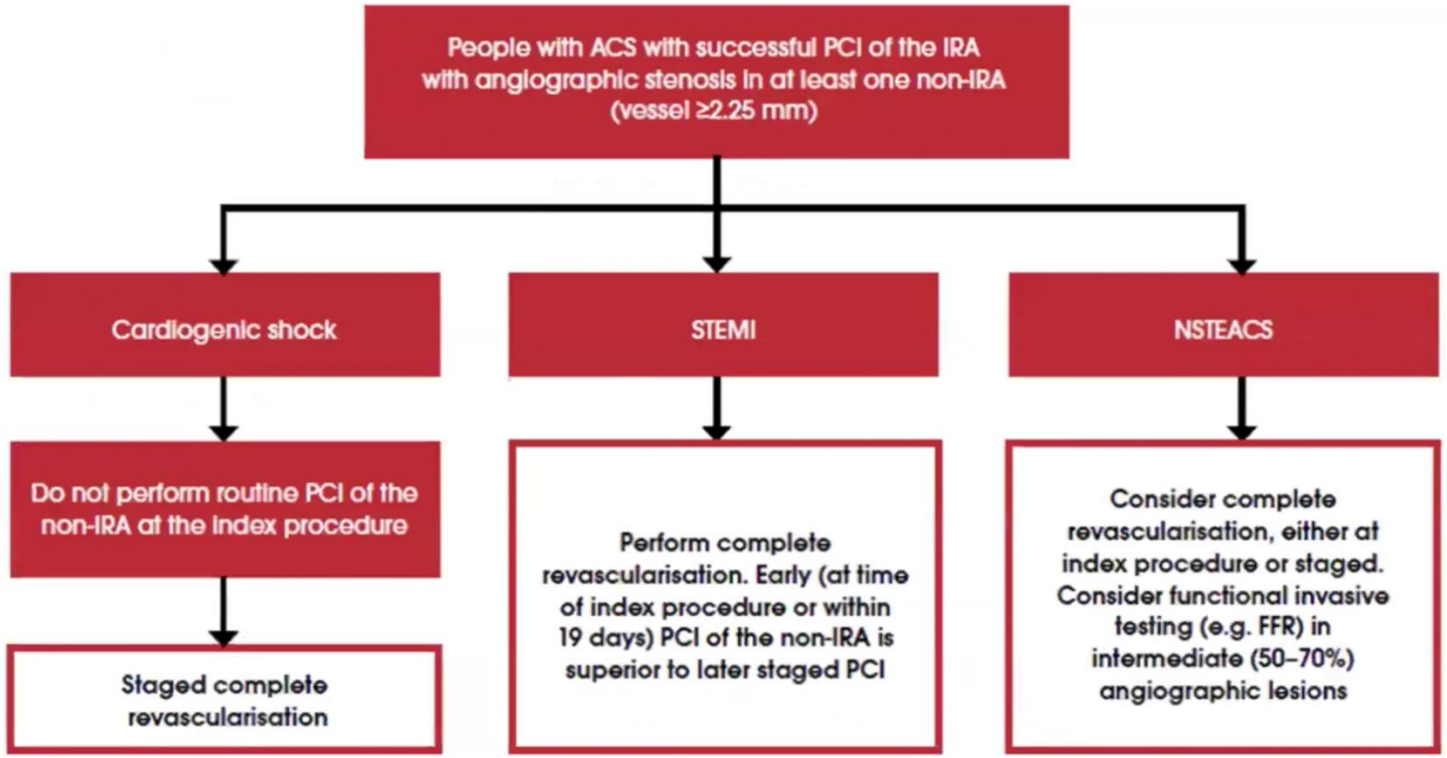
Older adults

- 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 $P2Y_{12}$ inhibitor (ticagrelor or prasugrel). (GRADE SOR: Strong; COE: High)

- Preferred $P2Y_{12}$ inhibitors ticagrelor or prasugrel: more rapid onset of action, greater potency than clopidogrel.

Practice points for timing of $P2Y_{12}$ inhibitor administration:

- **STEMI:** Consider pretreatment with a $P2Y_{12}$ inhibitor.
  - $P2Y_{12}$ 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:** $P2Y_{12}$ 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 $P2Y_{12}$ 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.

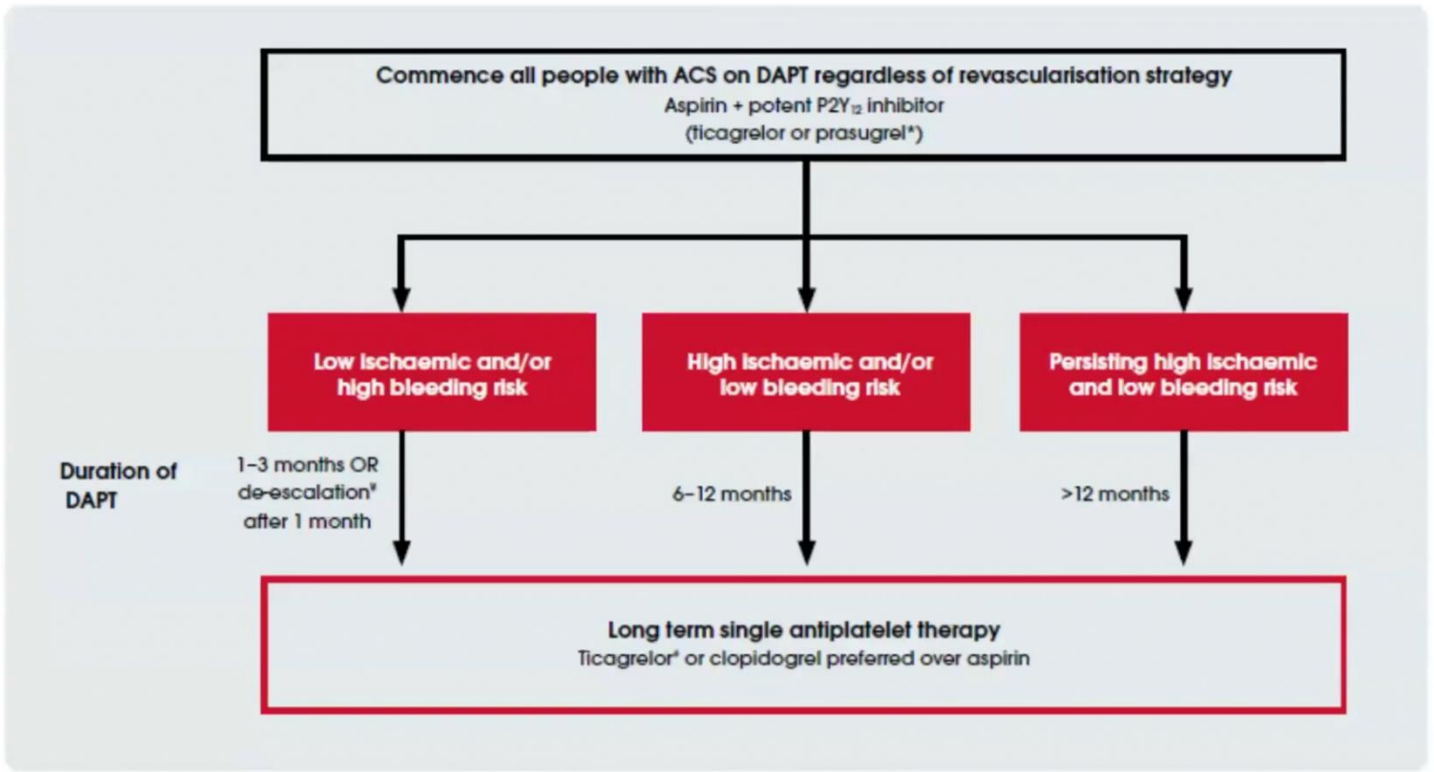
Pharmacotherapy in the acute phase

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 + $P2Y_{12}$ 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

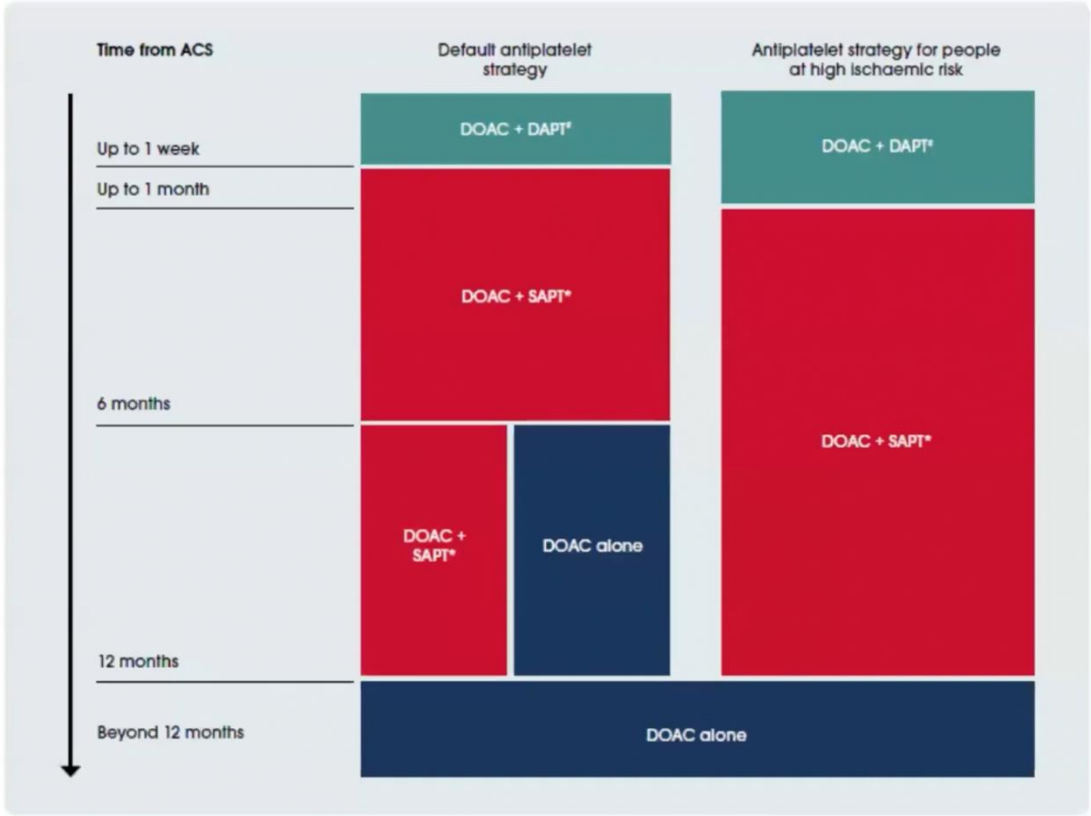


*Prasugrel is not currently available in Australia.
¥Refers to the de-escalation of DAPT to aspirin and a less potent P2Y12 inhibitor (clopidogrel).
#Current Pharmaceutical Benefits Scheme criteria preclude the prescription of ticagrelor as single therapy.

Recovery and secondary prevention

- Post ACS pharmacoptherapy – DAPT, targets, colchicine
- Vaccination
- Patient centred cardiac rehab

Antiplatelet therapy:
Long-term anticoagulation



#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)

Practice points:

- 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

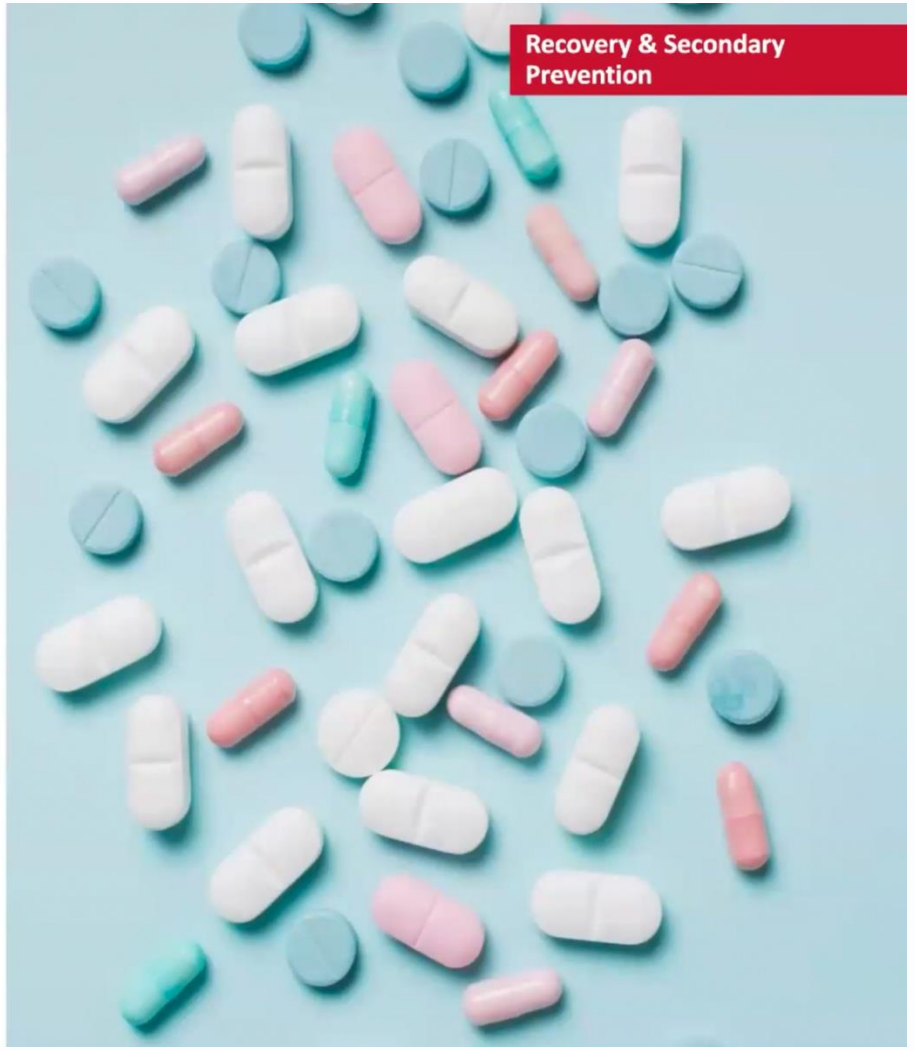
In people with ACS, use of an angiotensin receptor–neprilysin inhibitor is not recommended. (GRADE SOR: Strong; COE: High)

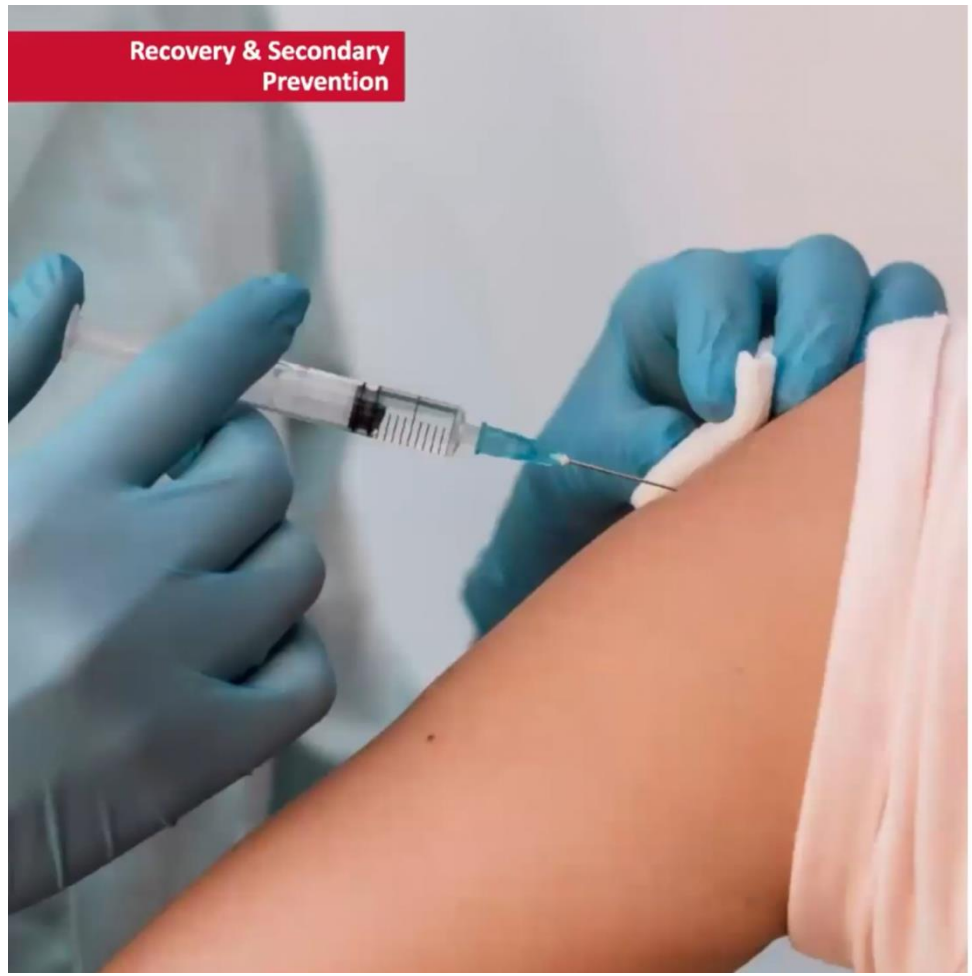
- PARADISE-MI trial (majority post-acute MI with LVEF ≤40%) assigned people to angiotensin receptor-neprilysin inhibitor or ACE inhibitor, showed no difference in CV death or incident heart failure at 22 months.

Colchicine therapy

In people with ACS, consider initiating colchicine (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)





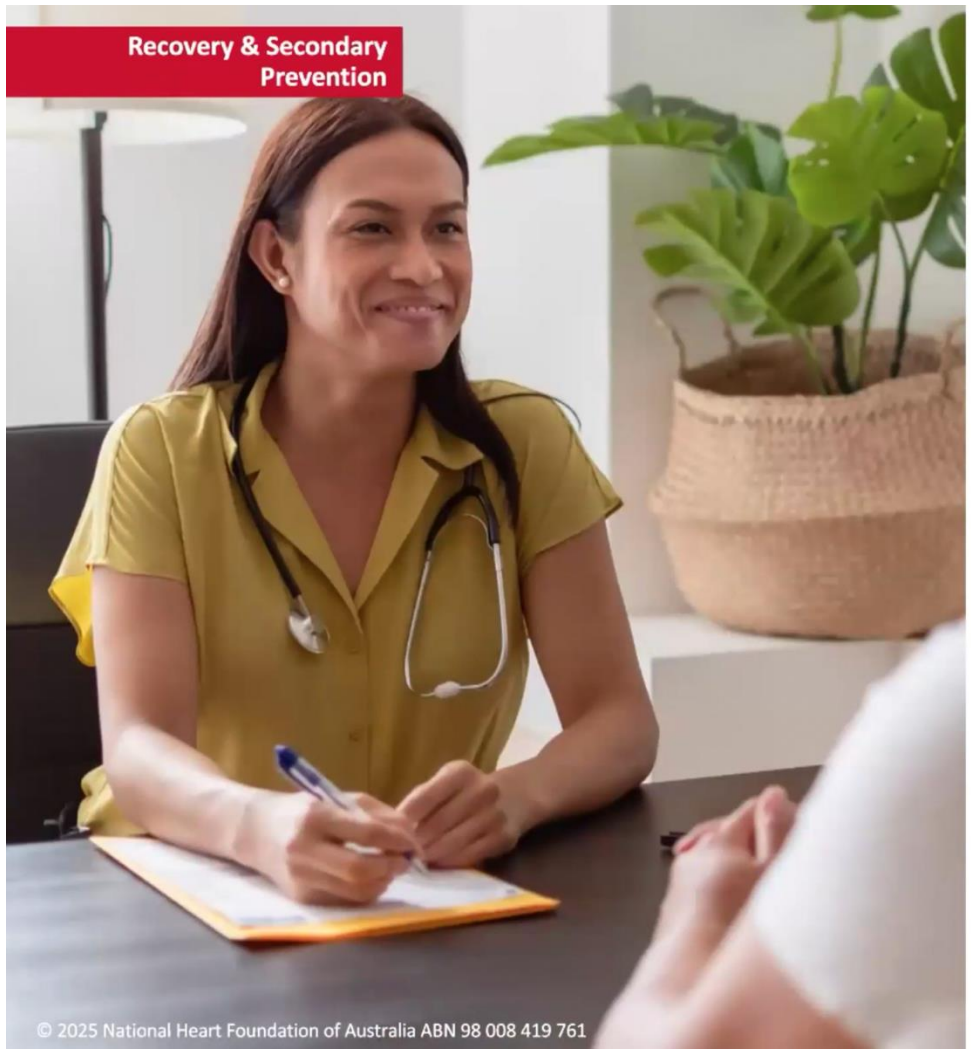
Vaccination against influenza and other respiratory pathogens

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)

Practice points:

- 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)

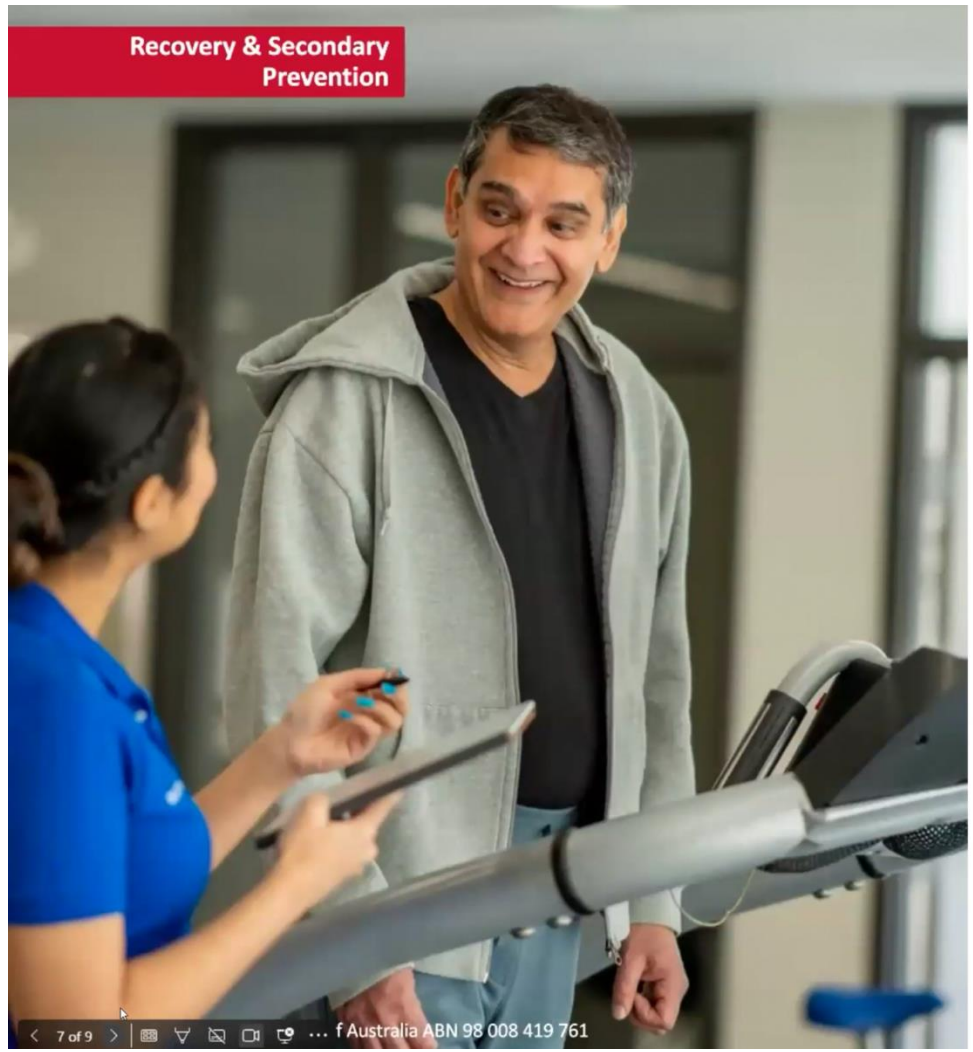
Practice points:

- 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)

Practice points:

- 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.



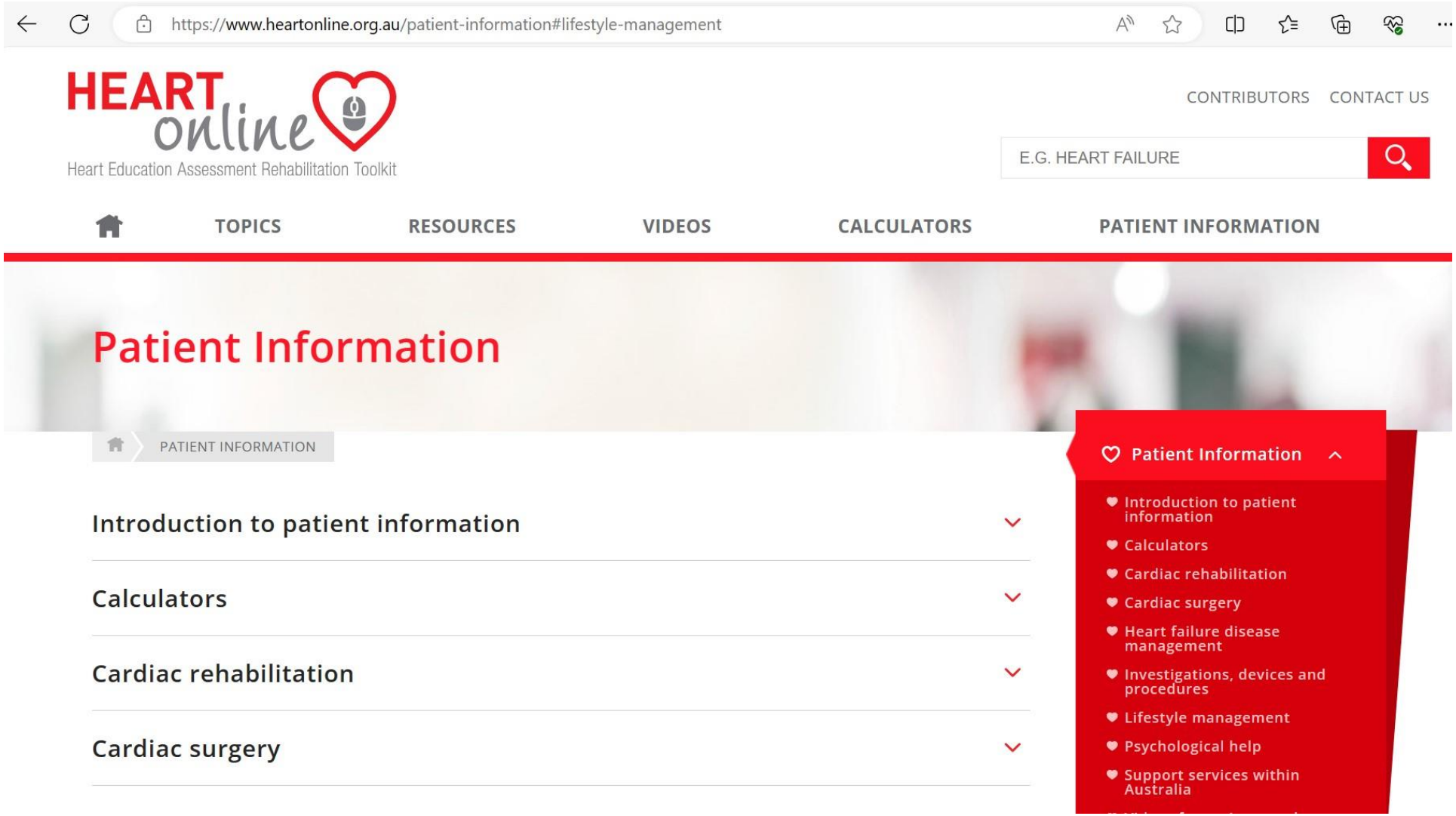
Person-centred secondary prevention

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.

Practice points:

- 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.


https://www.heartonline.org.au/patient-information#lifestyle-management
HEART online
Heart Education Assessment Rehabilitation Toolkit
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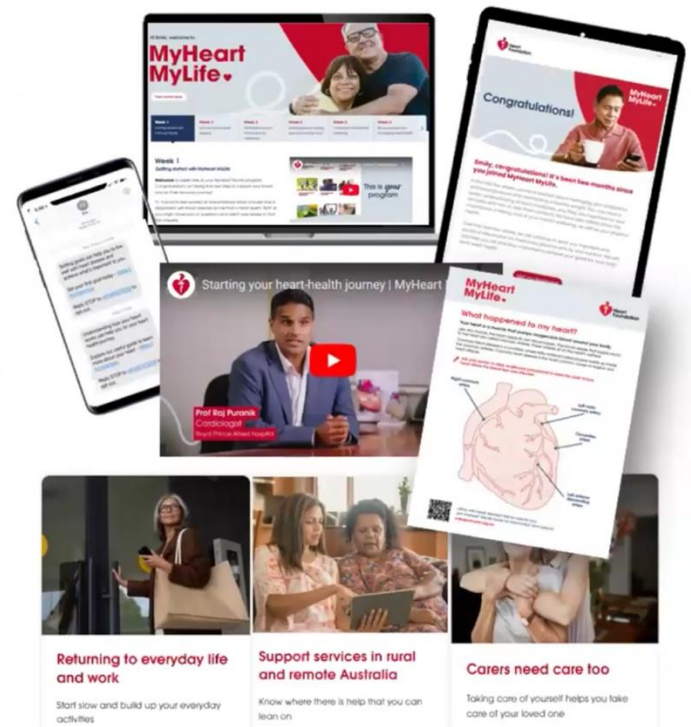
VIDEOS
CALCULATORS
PATIENT INFORMATION
Patient Information
PATIENT INFORMATION
Introduction to patient information
Calculators
Cardiac rehabilitation
Cardiac surgery
Patient Information
Introduction to patient information
Calculators
Cardiac rehabilitation
Cardiac surgery
Heart failure disease management
Investigations, devices and procedures
Lifestyle management
Psychological help
Support services within Australia

About the MyHeart MyLife patient support program

MyHeart MyLife

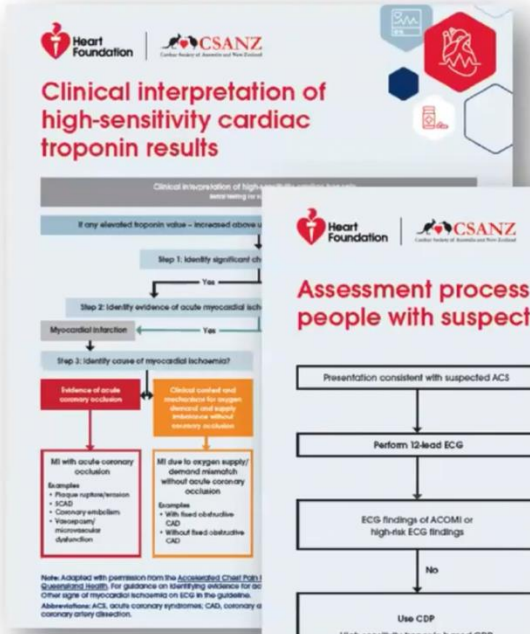
A free, tailored **12-week digital program** that delivers reliable heart health information, expert tips and practical tools to **support people living with coronary heart disease** to live healthier and happier lives.

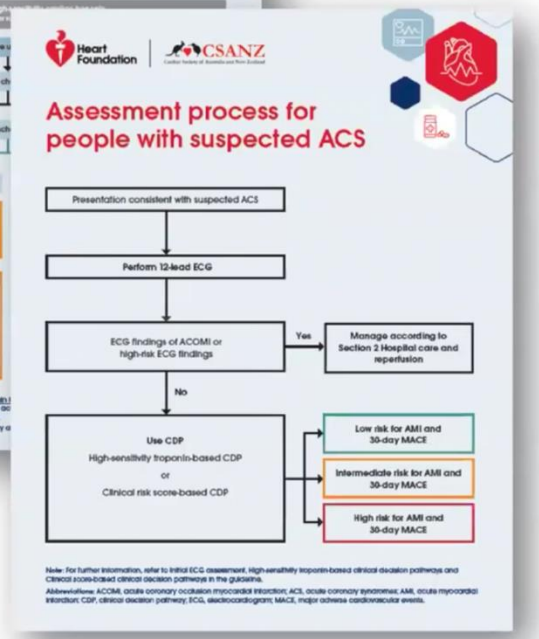
- Online dashboard with bite-sized articles and videos
- SMS and emails with practical tips
- Downloadable resources
- Access to the MyHeart MyLife online peer support community

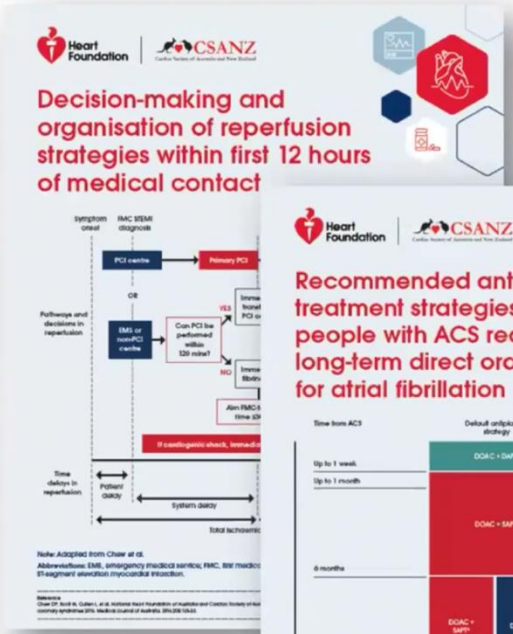


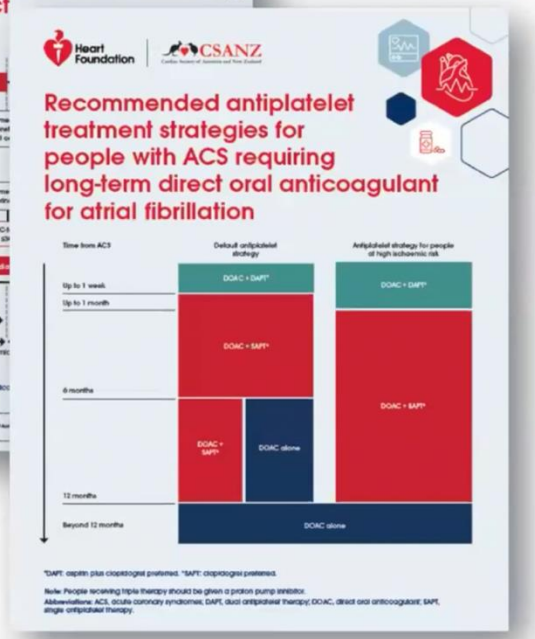
Resources

Quick reference guides for healthcare professionals









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

Implementing the new ACS guideline

Implementation

- **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

Heart Foundation™

01

- 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

02

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

03

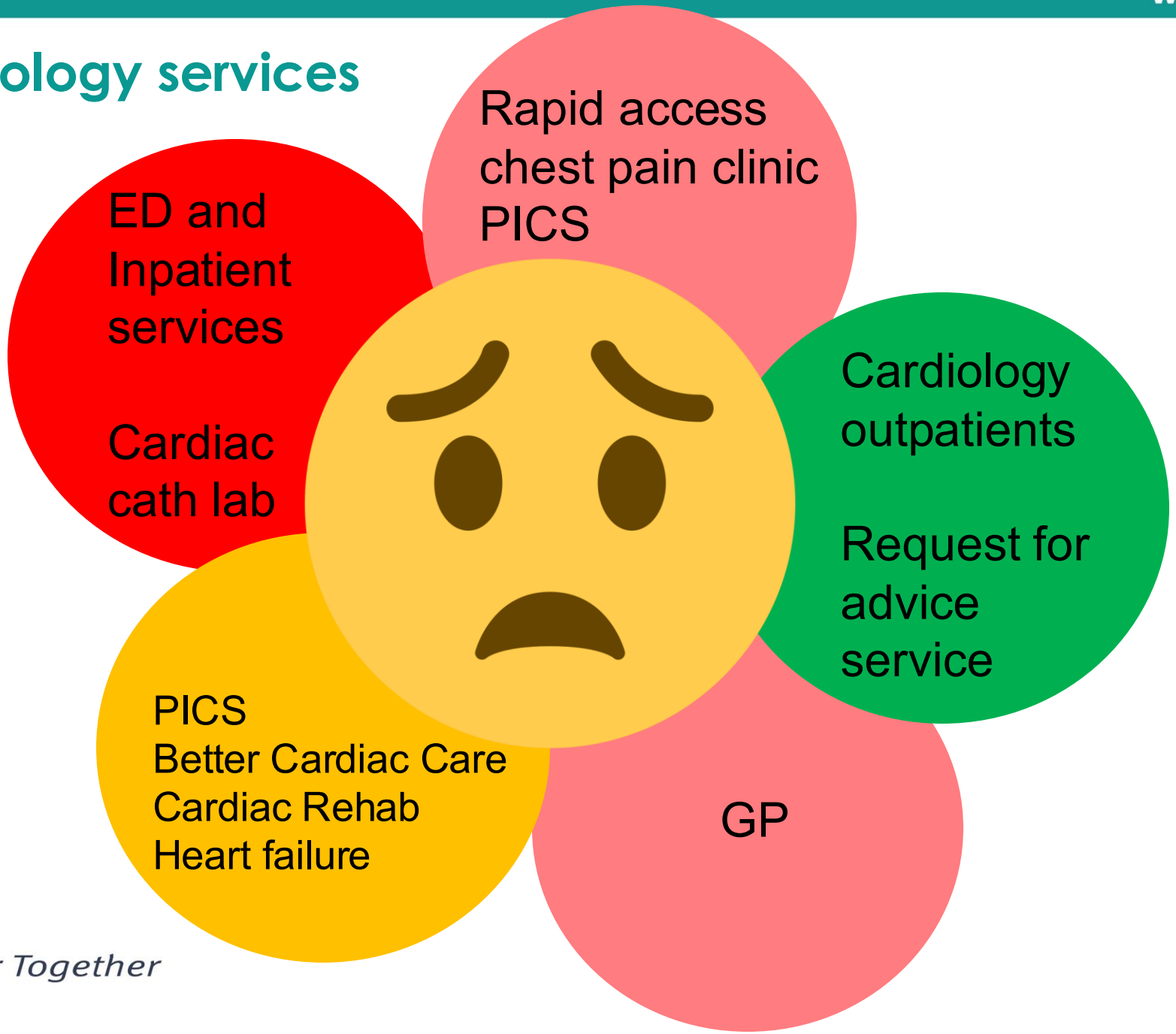
- If you still have symptoms after another 5 minutes, treat it as a heart attack - dial 111 and ask for an ambulance
- Chew an aspirin if advised by a paramedic

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

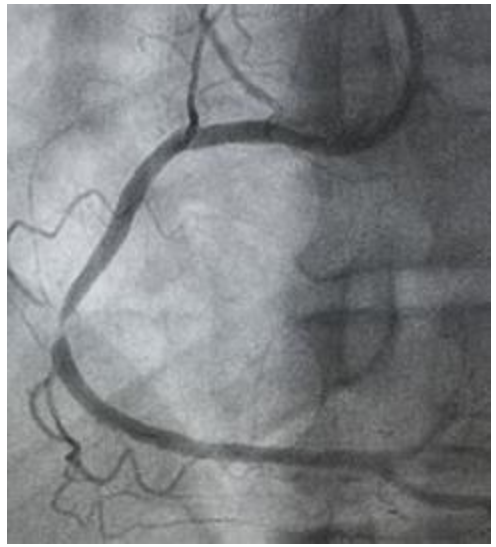
IMPORTANT - if your angina becomes more frequent, severe, lasts longer or happens when you are doing very little or resting, see your doctor in the next 24 hours

CS-PO-AN-ENG-20-V1

Cardiology services



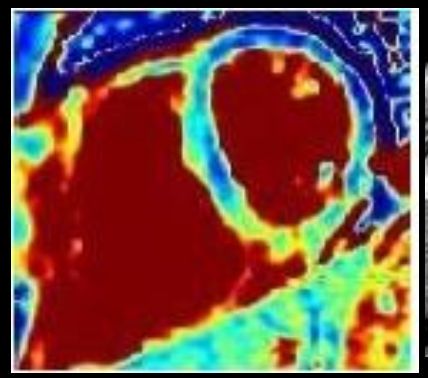
In patient services

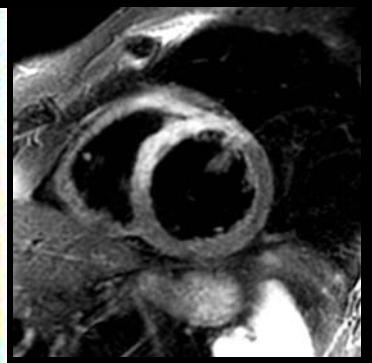


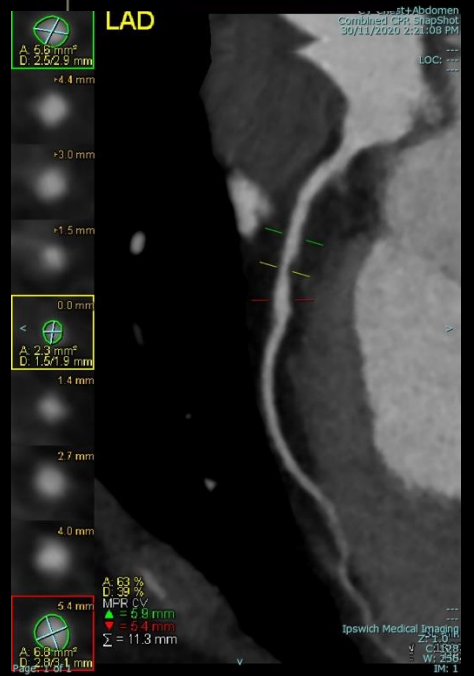
- 6 bed CCU
- 19 potential beds
- Cardiac cath lab – Mon, Wed, Friday since 2022 –
- >1500 cases treated closer to home
- Allied health inclusive of **specialist pharmacist**
- 4.5 FTE Consultant staff, training site for Cardiology advanced Trainees

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 (MRAC) Monday to Friday 7.30 am – 3.30 pm	Preventative Integrated 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	Hospital in the Home (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*

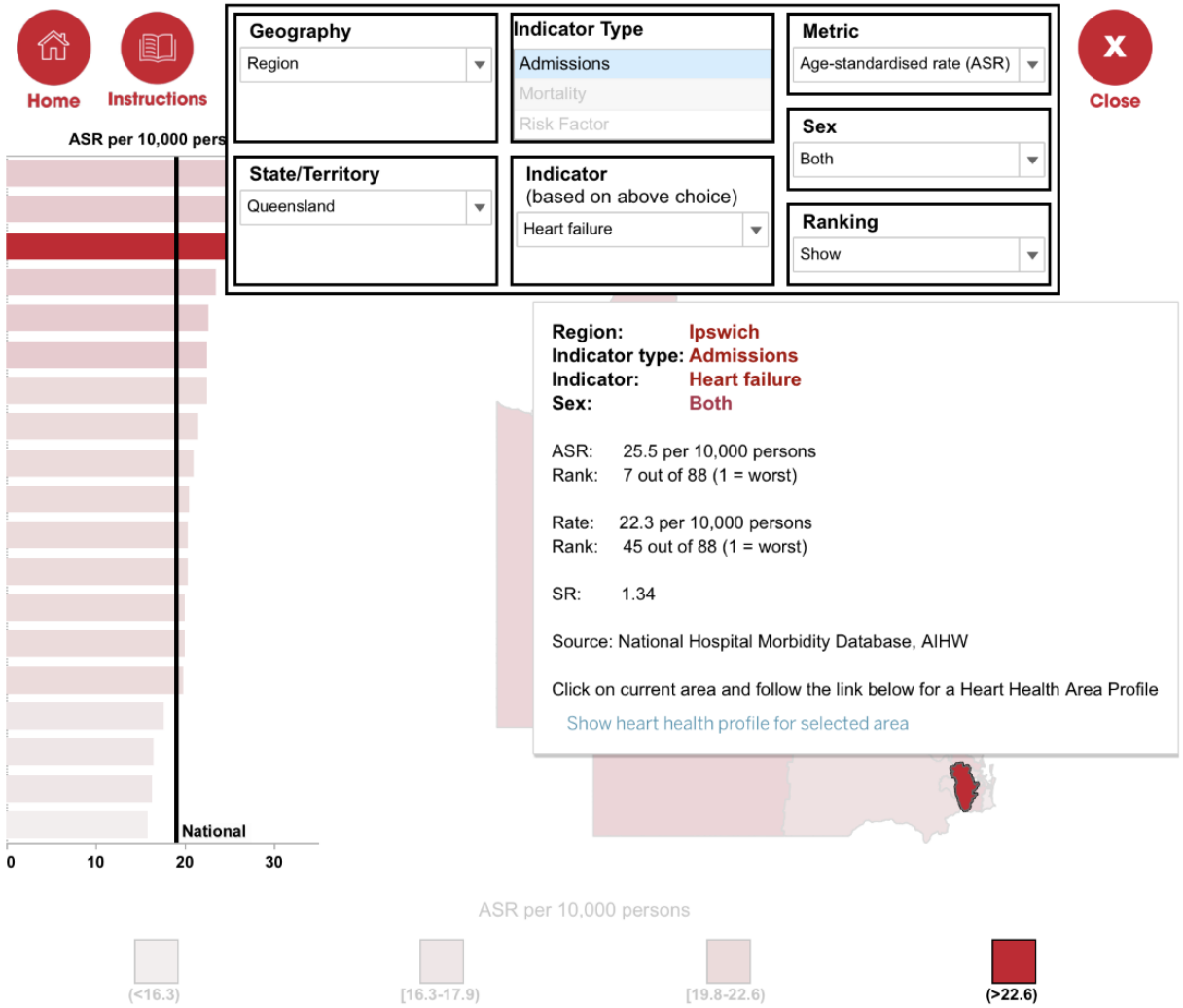
Triage – 0409 594 866

Phone 3447 2744

- WM_PICS@health.qld.gov.au

Interactive Australian Heart Maps

Compare heart health indicators across Australia



HEART FAILURE SERVICE

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

Google Q health Heart Failure Medical optimisation plan

Queensland Government

Heart Failure (HF) Medication Optimisation Plan

Facility:

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

DO NOT WRITE IN THIS BINDING MARGIN

Dear

Please optimise this patient's heart failure medications and call the number below if there are any concerns.

Recent results	EF %: Date	Weight (kg)	eGFR mL/min	K+ mmol/L	BP mmHg	HR bpm

Monitoring recommendations (see overleaf for guidance)

- Check blood pressure (BP) including postural drop and heart rate (HR) each visit
- ACEI/ARB/ARNI/MRA*: check serum potassium (K⁺), renal function 1-2 week/s after commencing or titrating (if K⁺ is high recheck in 48 hours). For MRAs check every 4 weeks for 12 weeks, at 6 months, then 6-monthly
- SGLT2i*: before commencing check volume status and for type 1 diabetics seek endocrinologist approval
- Diuretic dose changes beyond 3 days require medical review and checking of blood chemistry and volume status
- Iron: Order Hb*, CRP*, ferritin & transferrin saturation at first assessment and every 3-6 months if iron deficient

The 4 drug classes that reduce heart failure mortality & morbidity | **Combination therapy is more effective than a single medication at a higher dose BUT avoid simultaneous up titration**

Class*	Medication name	Current dose/ frequency	Target dose/frequency	Schedule / I
ACEI ARB ARNI		mg	mg	Washout for ... ACE ... week(s)
Beta-blocker	☐ Bisoprolol ☐ Carvedilol ☐ Metoprolol XL ☐ Nebi...	m...		mg every week(s)
MR...			mg	Increase dose once stable on other heart failure medications.
	...zin	mg	N/A	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

Diuretic	☐ Furosemide ☐ Bumetanide ☐ Patient has a diuretic action plan	Adjust diuretic dose according to clinical assessment (e.g., increase dose 50 –100% if fluid overloaded)
Iron infusion	Date of infusion (if given): (oral iron is ineffective with heart failure) ☐ Please check iron studies (see monitoring above). Give an iron infusion if ferritin is less than100 μg/L or 100-299 μg/L with a transferrin saturation below 20%. Contact hospital if unable to provide infusion	

Notes:

Consultant's name:

Authorised by (Dr/NP):
Name / Designation

Authoriser signature: Date:

Heart Failure Service Name

Phone:

*ACEI: angiotensin-converting-enzyme inhibitor; ARB: angiotensin II receptor blockers; ARNI: angiotensin receptor neprilysin inhibitor; MRA: mineralocorticoid receptor antagonist; SGLT2i: sodium-glucose cotransporter-2 inhibitor; Hb: haemoglobin; CRP:C-reactive protein; Estimated Glomerular Filtration Rate (eGFR)

v2.00 - 08/2022

SW1163

HEART FAILURE (HF) MEDICATION OPTIMISATION PLAN

Queensland Government

Heart Failure (HF) Medication Optimisation Plan

Facility:

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Date of birth: Sex: ☐ M ☐ F ☐ I

Medications that may cause or worsen HF

Non-steroidal anti-inflammatories, cyclooxygenase-2 inhibitors; centrally acting calcium channel blockers (verapamil, diltiazem), corticosteroids, tricyclic antidepressants, saxagliptin, moxonidine, thiazolidinediones (glitazones)

Hypotension

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

Symptomatic hypotension

1. Stop or redu... other ...

... are no ...

... ACEI, ARB, ARNI or ... dose if above measures do not work. ... abrupt cessation of beta blockers unless patient is in shock*.

IV. 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 SGLT2i, 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 SGLT2i).
- 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

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

... for ACEI, ARB, ARNI and MRA. Urgently check K+, ...atinine 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 trialling 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 ketogenic diet, dehydrated, or has vomiting or diarrhoea.

This guide is not intended to replace clinical judgment

Queensland Government

Heart Failure Fluid Action Plan

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Facility: Date of birth: Sex: M F I

Patient information

This plan will guide you on how to fine-tune your dose of diuretic (fluid tablet) when your weight or other symptoms change.

Diuretic (fluid tablet) is: One tablet = mg

Daily fluid limit is:

Well (dry) weight range is: kgs with no worsening of swelling or breathing

Your usual fluid tablet dose:
(note number of diuretic tablets and time of day)

tablet/s in the morning

tablet/s at lunch

tablet/s (details)

Fluid overload (too much)

If your weight goes OVER kg in days

AND / OR breathing is hard, or you have your feet or legs, or

Take: tablet/s in the

tablet/s at lunch

tablet/s (other)

Dehydration

If your

arsty or dizzy than usual,
have diarrhoea or vomiting

Take: tablet/s in the morning

tablet/s at lunch

tablet/s (other)

Return to your usual tablet dose when you are at your well (dry) weight again

If changes to your usual dose are needed for more than 3 days, please:

See your regular GP **OR**

Contact:

Tel:

Call 000 if your symptoms are severe

Prescriber name:

Signature:

Date:

HEART FAILURE FLUID ACTION PLAN

SWI 187

Page 1 of 2

Queensland Government

Heart Failure Fluid Action Plan

(Affix identification label here)

URN:

Family name:

Given name(s):

Address:

Facility: Date of birth: Sex: M F I

Fluid Watchers not Weight Watchers!

When your heart doesn't pump properly, your body w keep fluid. This causes you to put on fluid weight. Remem id = 1 kilogram

Keep track of your chang each day.

Weigh yourself Write down your weight

weight can change over time. There are many reasons for this including changes to your food intake or exercise. If your well (dry) weight has changed please see your doctor or nurse so they can adjust your plan.

Diuretics (fluid tablets)

Medicines that help you lose fluid are called diuretics. Some people call them fluid tablets, water pills or by a brand name. The tablets take 30 minutes to work and make you pass urine for about 6 hours.

Try taking your diuretics (fluid tablets) at the same time of day. You can sometimes delay or skip a dose to fit in with an outing but try not to do this too often.

While fluid tablets help to manage your breathlessness and swelling, they will not improve your heart function. This means that not everyone needs a fluid tablet all the time. Fluid tablets can be increased, decreased, or even stopped as your weight or other symptoms change.

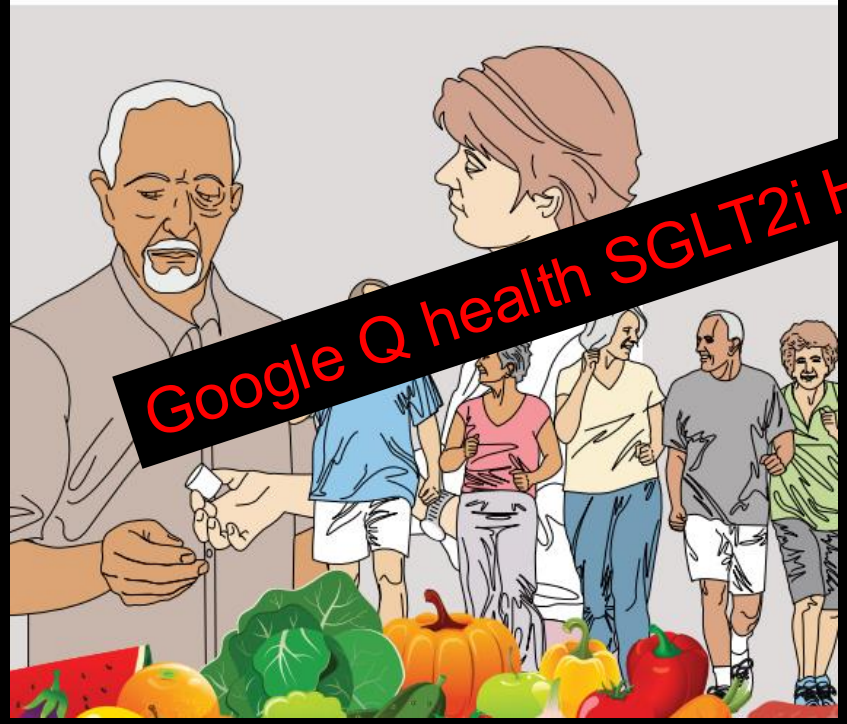
Other instructions:

Page 2 of 2

Heart Foundation

Living well with heart failure

Information to help you feel better



Google Q health SGLT2i Heart Failure sick day plan

Queensland Health

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

Patient information

SGLT2 inhibitors, when used for heart failure, can help to keep you out of hospital and to live longer. The medicines work by relieving symptoms caused by fluid build-up, preventing further damage to the heart, and helping heart cells to work [illegible]. Dapagliflozin (Forxiga®) and Empagliflozin (Jardiance®) are types [illegible] heart failure.

Your SGLT2 inhibitor: (name/brand) .....

Possible side eff[illegible]	[illegible]	Actions to take
	[illegible]outh, tiredness, and [illegible]iness (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

CardiacRehabIpswich@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 WM_MTDS@health.qld.gov.au or call 3447 2717.

- Health Pathways
- Referral portal
- https://westmoreton.communityhealthpathways.org/

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

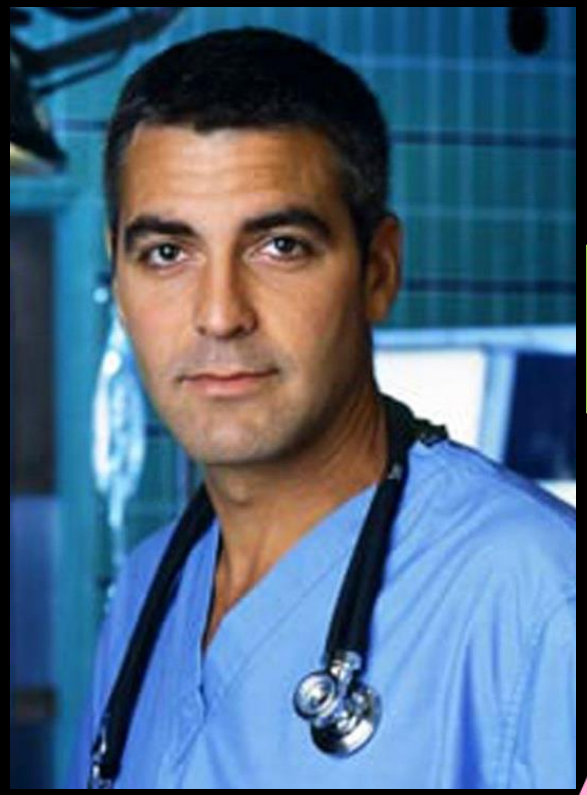
Outpatient Clinics

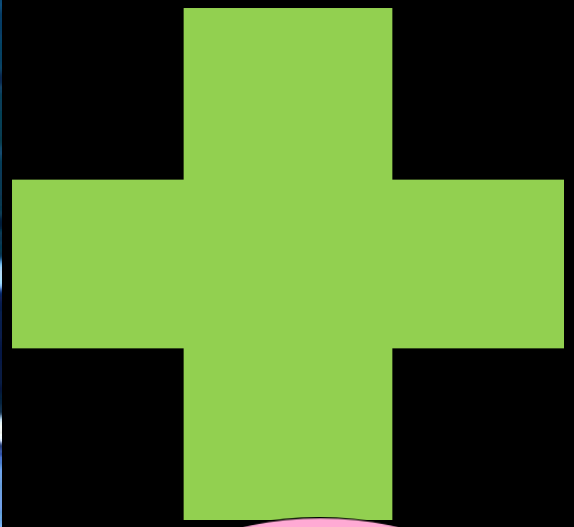
- 4.5 FTE Consultant Staff – Imaging, intervention and Heart Failure
- 10 outpatient clinics per week (not including 3 PICS clinics)
- Outreach clinics to Gatton, Boonah, Esk, IUIH Goodna
- Specialist multidisciplinary heart failure clinic
- >3500 referrals per year

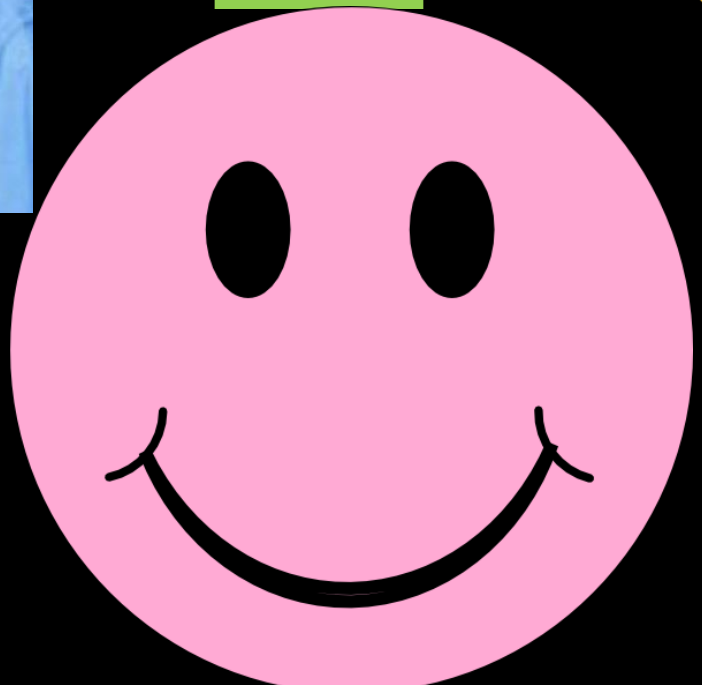
WMHHS Cardiology future state

- 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

Optimal management