

New Zealand Cardiac Nursing Knowledge and Skills Framework



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DEVELOPMENT WORKING PARTY

CSANZ Nursing Affiliate members of the Cardiac Nursing Framework Working Party:

Wendy Bryson, RN, BSc, MN (Clinical)

Chairperson

Nurse Practitioner Cardiology

Bay Of Plenty DHB

Andrew McLachlan, RN, MN (*1st class Hons*)

Nurse Practitioner Cardiology

Counties Manukau DHB

Kathy Patrick, RN, MHSc (Clinical)

Clinical Nurse Specialist Cardiology

South Canterbury DHB

Julie Chirnside, RN, MHSc (Clinical)

Clinical Nurse Specialist Cardiology

Canterbury DHB

Helen McGrinder RN, MN (Clinical)

Nurse Practitioner Cardiology

Auckland DHB

Jo-Ann Downie, RN, MN (*1st class Hons*)

CSANZ Affiliate Nursing Representative

Nurse Practitioner Cardiology

Taranaki DHB

Dean Kinloch, RN, BSN, MNsc

Clinical Nurse Specialist, Cardiac Care

MidCentral DHB

Steph Madenholt-Titley, RN, BSc, MA

Interventional Cardiology Nurse Specialist

Auckland DHB

Significant Contributors:

Annette Rief (Auckland)

Jo Scott (Christchurch)

Sarah Dixon (Nelson)

Naila Rahman (Hutt Valley)

Tom Donoghue (Wellington)

Future review and updating

The NZCN framework will be reviewed every three years, to incorporate recent developments and changes in cardiac nursing practice.

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The New Zealand Cardiac Nursing Knowledge and Skills Framework

1. Purpose and use

The New Zealand Cardiac Nursing (NZCN) Knowledge and Skills Framework published in this document describes the knowledge and skills required by nurses in order to practice in a specialty cardiac nursing role. It will benefit cardiac patients, nurses and health providers by:

- Providing a tool that may be used in the development of career pathways, job descriptions and appraisals
- Articulating expected behaviours and capabilities that may be used in the assessment and evaluation of the quality of individual and collective cardiac nursing practice
- Providing a framework for cardiac nursing education programmes
- Clarifying the cardiac nurse's role to administrators, consumers and other health care professionals
- Providing a platform for nurse-led cardiac care
- Promoting cardiac nursing as a career pathway, particularly for Maori and Pasifika nurses, in order to influence health promotion and the prevention of heart disease in Maori and Pacific people.

2. Components

The NZCN Knowledge and Skills Framework describes advanced cardiac nursing utilising the headings of 'generic competencies' and specific 'aspects of care'. Core competencies specific to nursing practice within acute and chronic cardiac areas of practice are defined.

Generic Competencies

- Leadership
- Pathophysiology
- Assessment
- Diagnostics
- Health Education / Cardiac Rehabilitation / Risk Modification

Aspects of Care

- Acute
- Chronic

3. Overview

3.1 Levels of Cardiac Nursing Practice

The framework provides guidance within each of the defined levels of nursing practice against the delineated aspects of care including desired patient outcomes. Cardiac nursing care will occur in a variety of clinical and non-clinical healthcare settings within New Zealand

- Registered Nurses care for patients with cardiac needs
- **Specialty Cardiac Nurses** provide routine, or predictable care for patients with specialised cardiac care needs
- **Specialist Cardiac Nurses** (Cardiac Clinical Nurse Specialist, CNS) provide care for patients with increasingly complex, unpredictable specialised cardiac care needs; providing expert support to other members of the healthcare team in managing cardiac patients, and lead cardiac nursing practice and service development.

Defining Levels of Practice

Knowledge and skills required to deliver cardiac nursing care at Specialty and Specialist Nurse levels of practice are as follows:

- All nurses:** all RNs who care for patients with cardiac care needs. It is expected that nurses who meet the core competency requirements set by the Nursing Council of New Zealand (NCNZ) for Registered Nurses will be capable of providing this level of care for all cardiac patients. For this reason the 'All nurses' level of care is not seen as specialty practice, and therefore is not included in the NZCN framework. It is expected that competence at this level of practice will be assessed by the NCNZ competencies and not by the NZCN document.
- Many nurses:** those RNs who provide routine care for patients with specialised cardiac care needs, often working within a specialty team. These are defined as Cardiac Specialty Nurses.¹ In addition to relevant clinical practice, these nurses will be working academically towards a minimum of Post Graduate Certificate. This level of practice is likely to be aligned with '**Proficient**' level (as minimum) in a Professional Development and Recognition Programme (PDRP).
- Some nurses:** those RNs who provide care for patients with increasingly complex, unpredictable specialised cardiac care needs, in a variety of settings; providing expert support to other members of the healthcare team in managing cardiac patients and leading cardiac nursing practice and service development. These are defined as Cardiac Nurse Specialists (Cardiac CNS – see Fig 1). In addition to relevant clinical practice, these nurses will be progressing academically through a Post Graduate Diploma towards a Clinical Masters degree qualification. This level of practice is likely to be aligned with '**Expert**' level (as minimum) in a PDRP (may incorporate senior nurses PDRP).
- Few nurses:** those RNs who the NCNZ has awarded the Cardiac Nurse Practitioner scope of practice.² These are nurses who are working autonomously, independently and collaboratively and prescribing within the cardiac scope of practice. As clinical leaders they work across healthcare settings, and influence health service delivery and the wider profession. **NPs** are audited against NCNZ competencies and are therefore not included within the scope of the NZCVN framework document.

¹ New Zealand Nurses Organisations. (2009). Glossary of Terms. Wellington, New Zealand

² Scope of practice, Nurse Practitioner: <http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Nurse-practitioner>

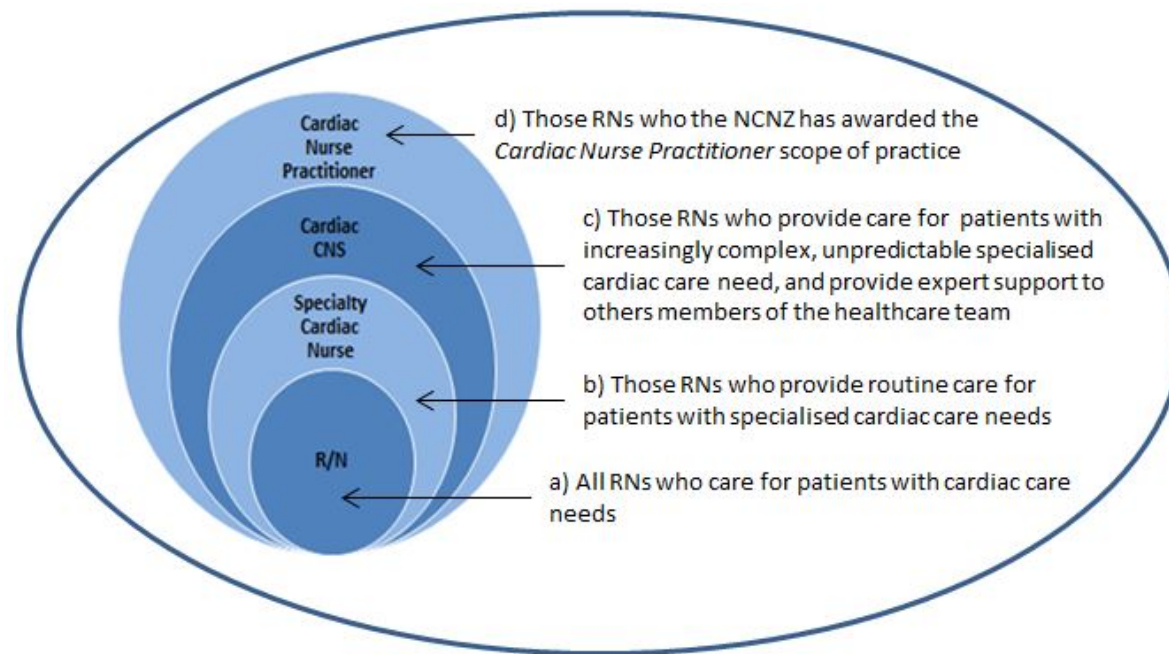


Fig 1. Cardiac Nursing Levels of Clinical Practice
(Adapted from Benner, 1982)

3.2 Competency domains

Competency domains, as defined by NCNZ, underpin each aspect of nursing knowledge or skill. The four domains of competence for Registered Nurses provide the basis for building the NZCN advanced knowledge and skills framework. The competency domains provide the basis for cardiac nursing practice within the Registered Nurse scope of practice, and facilitate cross referencing with PDRP tools.



Fig 2. Registered Nurse Domains of Practice

Domain one: Professional Responsibility

This domain contains competencies that relate to professional, legal and ethical responsibilities and cultural safety. These include being able to demonstrate knowledge and judgement and being accountable for own actions and decisions, while promoting an environment that maximises health consumer safety, independence, quality of life and health.

Domain two: Management of Nursing Care

This domain contains competencies related to assessment and managing health consumer care, which is responsive to the consumers' needs, and which is supported by nursing knowledge and evidence based research.

Domain three: Interpersonal Relationships

This domain contains competencies related to interpersonal and therapeutic communication with health consumers, other nursing staff and inter-professional communication and documentation.

Domain four: Inter-Professional Health Care and Quality Improvement

This domain contains competencies to demonstrate that, as a member of the health care team the nurse evaluates the effectiveness of care and promotes a nursing perspective within the inter-professional activities of the team.³

³ Nursing Council of New Zealand: Competencies for registered nurses <http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Registered-nurse>

4. The Framework as a tool for assessment using the PDRP

The NZCN framework is a tool which can be used to express levels of practice for Cardiac Nurses across various clinical settings. The intention is that it may be used as evidence of competence within existing PDRP portfolio processes. Aspects of the framework which are relevant to the particular area /role or level of cardiac nursing clinical practice, can be used for assessment purposes, whilst those aspects of care not relevant can be omitted.

5. Registered Nurse Prescribing

The NZCN framework recognises RN prescribing as a recent development, and expect that Cardiac Nurses who wish to be designated RN prescribers would be operating at Specialist level (CNS) and these skills would be augmented by specific prescribing education, experience and competence as outlined and audited in accordance with NCNZ guidelines.

6. Advanced Cardiac Nursing

In addition to the Registered Nurse Domains of Practice advanced nursing roles in specialist areas of practice require additional expertise and skills within a defined area of practice. Encompassed within the Cardiac Specialty and Cardiac Nurse Specialist (Cardiac CNS) roles are greater responsibility, accountability and autonomy for broader aspects of the management of cardiac care. Many of these aspects of management were previously associated with the responsibilities of another professional domain e.g. medical. The role boundaries are such that professional accountability begins with the referral of a patient to a Cardiac CNS following diagnosis of the relevant health problem. Professional autonomy exists to the extent that the nurse specialist may in collaboration with the nurse practitioner, cardiologist or other physician alter or manage interventions or treatments. Accountability and autonomy extend to a whole episode and holistic sphere of care, following which the care is transferred as appropriate.

6.1 Role variations/ Expectations

Within advanced practice nursing roles, nurses provide specialist nursing care, teaching and coordination of care for a specific client population across health care settings. There is also accountability for promoting, developing and implementing evidence-based practice for nursing in the specified specialty areas. It is acknowledged that in larger organisations roles may be very specific, whereas in smaller organisations roles may cover more than one area of cardiac nursing practice.⁴ Furthermore, it is an expectation that nurses in advanced clinical roles engage in post graduate level education and undertake enhanced professional activities e.g. leadership, research, and quality improvement.

6.2 The New Zealand Context

The growing complexity and ongoing sub-specialisation of cardiac nursing in New Zealand has led to specialised cardiac nursing groups working together nationally. These groups have produced and continue to develop specific role expectations and competencies for nurses working within defined sub specialty areas, e.g. Invasive Cardiac Nursing, Secondary Prevention, etc. We recognise the depth of this work and the contribution it makes to further defining cardiac nursing in New Zealand. It is envisaged that existing and future sub-specialty competency documents will be linked by this framework to provide a comprehensive overview of the continuum of cardiac nursing in New Zealand.

⁴ The National Nursing Consortium: Practice Standards Endorsement. 2013 <http://nursingstandards.hiirc.org.nz/>

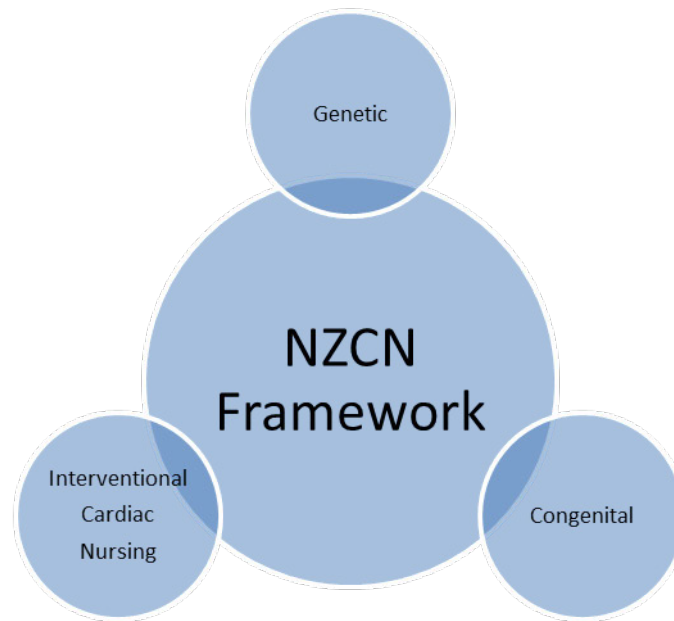


Fig3. Diagrammatic overview of Advanced Cardiac Nursing framework links with sub-specialty competency documents

7. Generic Competencies

The generic competencies are applicable to all cardiac nurses working in advanced practice roles. These have been defined in accordance with the Specialty and Specialist level of nursing practice.

These have been outlined using headings of:

- Leadership
- Physiology and Pathophysiology
- Assessment
- Diagnostics
- Health Education / Cardiac rehabilitation /Risk Modification

7.1 Leadership

Specialty cardiac nurses demonstrate leadership and mentorship across the NZNC Domains of Practice for Registered Nurses. They lead and mentor all nursing staff with less cardiology experience within their area of practice. They advocate for the best outcomes for their patients taking into account personal and cultural preferences. Cardiac CNS's demonstrate leadership and mentorship across a broad context to develop the nursing workforce, and to improve the equity and quality of care delivered to patients and families. They influence the development of policy and procedures at a service, professional, or organisational level to enhance patient outcomes and healthcare delivery.

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
Leadership	Demonstrate an understanding of: <ul style="list-style-type: none"> • The importance of mastering new professional and technical knowledge and continually improving personal performance • The necessity of asking questions and sharing knowledge • Positive attitude to changes to inspire others to accomplish change. • The delegation of authority and empower people to be accountable for standards of care and performance • The value in encouraging other team members to share, discuss and work together in developing innovative ideas • The requirement for a strong and persistent focus on patient safety and enhancing responsiveness to the patient • Health sector specific legislation, regulations, guidelines and codes of practice relating to equality, cultural awareness and diversity 	Demonstrate an understanding of: <ul style="list-style-type: none"> • The value in supporting improved professional performance, and commitment to uphold professional values and ethics • Advanced professional and personal competence • The factors that may cause conflict or prevent team members working towards agreed goals • A continuous improvement approach • The need to engage with other leaders to facilitate strategic change • The importance of diversity and facilitating cultural equity in care delivery
	Able to: <ul style="list-style-type: none"> • Benchmark of own performance and competence against professional standards • Attain performance goals and standards • Work with others to identify and overcome obstacles to seize improvement opportunities and defend collective decisions • Develop creative, resourceful solutions to improve the standard of care and quality • Participate in audit processes and support others to be accountable for standards of care • Demonstrate uncompromising integrity and commitment to professional, organisational values and ethical values and practices • Support a culture where everyone has a sense of the underpinning vision, purpose and values 	Able to: <ul style="list-style-type: none"> • Advocate for change planning and processes where safe patient care is central • Fosters an environment of monitoring progress within and across teams/work areas/disciplines and encourages innovation and change • Improve processes and patient care • Advocate for a clinical area/ profession during change • Participate in policy and procedure review and development • Drive clinical audit/research to improve clinical and service outcomes. • Balance risks against the benefits to effectively advance new practices and ideas • Share and create collaboration within and across professional groups

7.2 Physiology/Pathophysiology

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
Physiology	Demonstrate an understanding of:	Demonstrate an in-depth understanding of:

/Pathophysiology	<ul style="list-style-type: none"> • Normal cardiac anatomy and physiology and the pathophysiology of commonly presenting cardiac conditions in acute and chronic phases: • Atherosclerotic disease and associated conditions • Heart rhythm and conduction disorders • Structural abnormalities of the heart • Heart muscle disorders 	<ul style="list-style-type: none"> • Cardiac anatomy and physiology and the pathophysiology of complex cardiac conditions in acute and chronic phases
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7.3 Assessment

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
Assessment	Demonstrate an understanding of: <ul style="list-style-type: none"> • Assessment frameworks which guide patient assessment and treatment 	<ul style="list-style-type: none"> • Completion of post graduate advanced health assessment paper
	Able to: <ul style="list-style-type: none"> • Obtain a subjective assessment of common or concerning cardiac symptoms: ie stable/ unstable a) Pain or discomfort b) Palpitations c) Shortness of breath d) Dizziness e) Syncope f) Fatigue g) Swelling or oedema h) Relevant family history i) Previous surgical history j) Social history	Able to: <ul style="list-style-type: none"> • Obtain a comprehensive health history • Anticipate, prioritises and identifies emergent, urgent and life threatening situations.
	Demonstrates ability to: <ul style="list-style-type: none"> • Undertake an objective assessment of the cardiac patient using a systematic approach • Utilise appropriate risk-assessment tools. • Undertake focused physical examination of the cardiac system using a systematic approach: a) General appearance b) Extremities examined for cyanosis, clubbing, pallor and oedema c) Measurement of blood pressure, heart rate, respiratory rate, height, weight (BMI) and pulse oximetry d) Measurement and estimation of jugular venous pressure e) Inspection and palpation of the precordium f) Auscultation of heart (minimum apical area) and lungs g) Inspection and palpation of arms and legs	Demonstrates ability to: <ul style="list-style-type: none"> • Perform a complete or focused physical examination. Identifies and interprets normal and abnormal findings as appropriate to patient presentation • Request and/or performs screening and diagnostic investigations, interprets results and assumes responsibility for follow-up • Rationalise reasons for investigations and plan of care based on assessment findings • Synthesise health assessment information using clinical reasoning to identify health risks and states of health/wellness • Formulate differential diagnoses through the integration of patient information and evidence informed practice

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
	<ul style="list-style-type: none"> h) Recognise abnormal physical assessment findings and responds appropriately i) Identify specific cardiac risk factors based on the patient's history and physical examination 	
	<p>Able to:</p> <ul style="list-style-type: none"> Communicate history and physical examination findings effectively in oral and written form 	<p>Able to:</p> <ul style="list-style-type: none"> Communicate with patients about health assessment findings including outcomes and collaborates to establish ongoing plan of care

7.4 Diagnostics /Procedures

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
12 Lead ECG and interpretation	<p>Able to:</p> <ul style="list-style-type: none"> Initiate and undertake a 12 Lead ECG Complete ECG and rhythm interpretation workshop/course Seek timely review of all 12 Lead ECGs by clinical staff <p>Demonstrates:</p> <ul style="list-style-type: none"> Telemetry set-up including patient education <p>Able to:</p> <ul style="list-style-type: none"> Discuss indications and procedure for requesting inpatient telemetry 	<p>Able to:</p> <ul style="list-style-type: none"> Discuss the role of the 12 Lead ECG in patient assessment and diagnosis, including limitations Evaluate the impact of intervention on the ECG and suggests alternatives Expert assessment of arrhythmias and demonstrates appropriate intervention Interpret the recording for rhythm, rate, presence and configuration of P waves, length of PR interval, length of QRS complex, configuration and deviation of the ST segment, presence of and configuration of T waves, length of QT interval, presence of extra waves and identification of arrhythmia Evaluate for ECG signs of ischaemia, injury or infarction
Invasive cardiac investigations	<p>Demonstrates;</p> <ul style="list-style-type: none"> Accurate patient education, physical assessment, monitoring and nursing care of patients pre-, and post-cardiac procedures Competent airway management and administration of conscious sedation and pain control Sterile technique, infection control measures and ensures haemostasis in accordance with organisational guidelines and policies Recognises and analyses haemodynamic waveforms 	<p>Demonstrates:</p> <ul style="list-style-type: none"> In depth understanding of interventional procedures, recognises unexpected events and anticipates solutions focused options Initiates and ensures expert care for patient requiring haemodynamic support, recognising and resolving barriers to optimal care provision
Pacing/ICD	<p>Demonstrates an understanding of:</p> <ul style="list-style-type: none"> Appropriate care and safety when caring for patients requiring temporary/permanent pacing e.g. environment, infection Rationale and physiology of pacing <p>Able to:</p>	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Pacemaker complications e.g. threshold/ sensitivity, runaway pacemaker, and regular assessment requirements The impact of various actions on the management of patients with CRT/permanent pacing systems

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
	<ul style="list-style-type: none"> Describe principles of temporary cardiac pacing e.g. location of wires. Describes the equipment and patient preparation required for safe removal of pacing wires e.g. INR check Provide accurate information to patient regarding EP studies/Pacemaker/ICD insertion. Including wound care and pre and post insertion restrictions, including lifestyle issues 	<p>Able to:</p> <ul style="list-style-type: none"> Ensure appropriate psychological support for patients post ICD activity and during deactivation phase of care Recognise pacing sensing/capture abnormalities on ECG and refers appropriately
ETT	<p>Demonstrates an understanding of:</p> <ul style="list-style-type: none"> Contraindications and risk stratification to assess appropriateness for supervised exercise testing as per CSANZ Guidelines <p>Able to:</p> <ul style="list-style-type: none"> Undertake supervised exercise tolerance testing in accordance with CSANZ Guidelines and local protocols and takes appropriate action based on assessment and test results 	
DC Cardioversion	<p>Demonstrates sound understanding of:</p> <ul style="list-style-type: none"> Arrhythmias and management Rhythm and rate control agents Cardioversion procedure, anticoagulation and contraindications <p>Able to:</p> <ul style="list-style-type: none"> Collaboratively case manage cardioversion waiting list 	

7.5 Health Education / Secondary Prevention / Risk Modification

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
Risk profile/assessment	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> The importance of an accurate patient assessment targeting specific cardiac risk factors to offer referral for appropriate cardiac rehabilitation/prevention support <p>Able to:</p> <ul style="list-style-type: none"> Utilise interactive communication and counselling processes with both patients and their families and agree on a treatment plan and patient goal setting using shared care principles 	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> The importance of identifying patients requiring additional support for their cardiac recovery <p>Able to:</p> <ul style="list-style-type: none"> Communicate lifestyle intervention (s) at an appropriate level for the patient, assist with setting clear and realistic goals and negotiates appropriate interventions
Healthy Eating support	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Role and impact of diet on CVD progression and risk factor management and the principles of weight management <p>Able to:</p> <ul style="list-style-type: none"> Calculate body mass index and offer tailored advice on current guidelines and recommendations for healthy body weight and secondary prevention 	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Effective behaviour change strategies and target goals for CVD modification <p>Able to:</p> <ul style="list-style-type: none"> Offer behavioural interventions to promote adherence and self-management skills and support patients to make sense of dietary information to apply it to their particular circumstances

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
Blood pressure management	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Hypertension as a risk factor for atherosclerotic vascular disease and potential end-organ damage Signs/symptoms of hypotension and hypertension BP targets for primary and secondary prevention Actions of classes of antihypertensive medications and common side effects <p>Able to:</p> <ul style="list-style-type: none"> Accurately analyse BP determinations at rest (seated, supine, standing) and during exercise Assess adherence with BP medications and management plan 	<ul style="list-style-type: none"> Ensure realistic goals for change, measure and report outcomes <p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Appropriate management goals for patients with co-morbid conditions and interventions that improve adherence and self-management. <p>Able to:</p> <ul style="list-style-type: none"> Support patients to understand the effect of BP on health, adhere to treatment regime and problem solve any issues with medication or lifestyle change Facilitate optimisation of treatment regime Measure and report outcomes of BP management
Lipid management	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> The role of lipids in the atherosclerotic disease process Importance and efficacy of weight management, physical activity and exercise, smoking cessation, alcohol moderation, and drug therapy in the control of serum lipids <p>Able to:</p> <ul style="list-style-type: none"> Interpret lipid values and explain clearly to patients Assess adherence to medications and lifestyle interventions 	<p>Demonstrate an comprehensive knowledge of:</p> <ul style="list-style-type: none"> Dyslipidaemia and genetic associations, uses best practice guidelines, clinical research when discussing lipid treatment therapies <p>Able to:</p> <ul style="list-style-type: none"> Assist patients to understand lipid lowering relates to lifestyle and medical therapy Interpret lipids trends, help patients to understand the information surrounding lipid-lowering therapy and support Communicate a risk reduction plan for abnormal serum lipids
Diabetes management	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Types of diabetes, lab values associated with diabetes, signs and symptoms and possible complications Importance and efficacy of weight management, physical activity and exercise, alcohol moderation, and drug therapy in the control of blood glucose <p>Able to:</p> <ul style="list-style-type: none"> Provide patient education concerning the effects of lifestyle and medications on glycaemic control Refer patient to a diabetic educator or clinical dietitian, as appropriate 	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> The pharmacokinetics and Pharmacodynamics of diabetes treatment in relationship to cardiac medications Assess history of complications related to diabetes including frequency and triggers of hyperglycaemia and hypoglycaemia Measure and report outcomes for glucose control at the conclusion of rehabilitation, including episodes of hyperglycaemia and hypoglycaemia during/after exercise
Smoking cessation support	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Current guidelines for treating tobacco use and efficacy of pharmacologic interventions Available support services to support smoking cessation Physiological and psychological aspects of tobacco addiction and barriers to treatment adherence <p>Able to:</p>	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Individualising level of intervention and makes appropriate follow up arrangements Actions of pharmacologic and lifestyle interventions for psychological distress <p>Able to:</p> <ul style="list-style-type: none"> Effectively engage smoking cessation support

Generic Competency	Specialty Cardiac Nurse	Cardiac CNS
	<ul style="list-style-type: none"> Assess use and categories of tobacco use Promote behavioural interventions for tobacco cessation and long-term tobacco-free adherence Measure and report outcomes of tobacco cessation 	
Physical activity counselling	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Lack of regular physical activity and sedentary behaviour as a major risk factor for CAD Current recommendations for intensity, frequency, and duration for regular physical activity in persons with CVD <p>Able to:</p> <ul style="list-style-type: none"> Assess current physical activity level and assist patients in setting realistic incremental goals for increasing the level of safe and appropriate daily physical activity and structured exercise 	<p>Demonstrate an understanding of:</p> <ul style="list-style-type: none"> Pre-existing musculoskeletal and neuromuscular conditions that may affect physical activity Metabolic requirements for recreational, occupational, and sexual activities Effective behaviour change strategies <p>Able to:</p> <ul style="list-style-type: none"> Consider risk versus benefit when assessing physical activity level and offer behavioural strategies that will improve adherence Measure and report outcomes for physical activity

8.0 Aspects of Care

Aspects of care outline the competencies associated with nursing care of patients with specific cardiac conditions and will be applicable based on individually defined role responsibilities. These are outlined and further defined using the headings: Acute Care and Chronic Care.

8.1 Acute cardiac care

Specialty cardiac nurses will be able to deliver proficient nursing care to inpatients with cardiac ischaemia, arrhythmias, decompensated heart failure and undergoing cardiac surgery. This requires a comprehensive systematic approach to assessment and management of the cardiac patient, recognising cardiology inpatients may be of low, intermediate or high acuity.

Specialist cardiac nurses (Cardiac CNS) in the acute care setting deliver effective and advanced nursing care. They work in a broader context to support and develop the specialty nursing workforce, improve the quality of care delivered, and assist in the development of policies and procedures to achieve these aims.

Aspect of Care	Specialty Cardiac Nurse	Cardiac CNS
Coronary ischaemia	<ul style="list-style-type: none"> Appropriate and timely treatment of cardiac ischaemia Able to safely interpret and hemodynamically monitor patients Assessment of patient's chest pain/ ischaemic symptoms Appropriate patient placement and judgement of acuity: liaises with senior nursing line management Displays critical thinking /risk assessment and follow through actions 	<ul style="list-style-type: none"> Anticipates and responds appropriately to rapid changes in patient condition Expertise in Haemodynamic monitoring and interpretation Skilled in taking patient history and referring to other disciplines Able to work autonomously and assess workload and prioritise needs
Arrhythmia management and assessment	<ul style="list-style-type: none"> Interpretation of rhythms and ECGs, (may include reporting telemetry) Appropriately manages and seeks medical support Organises the appropriate medications- oral or IV 	<ul style="list-style-type: none"> Expert knowledge and interpretation of rhythms and ECGs Management of temporary pacemakers and troubleshooting (teach others) Demonstrates knowledge of classes and sub-classes of cardiac

Aspect of Care	Specialty Cardiac Nurse	Cardiac CNS
	<ul style="list-style-type: none"> • Recognises and initiates ACLS policies and protocols • Clinical assessment of arrhythmia and able to organise bloods • Prepare and Care for patients post temporary pacing wires PPM, CRT, ICD insertion • Understanding and management of temporary pacemakers and how to troubleshoot • Pre and post- DC cardioversion care 	<p>medications and their indications</p>
Decompensated heart failure	<ul style="list-style-type: none"> • Appropriate and timely treatment of decompensated heart failure • Interpretation of rhythms and ECGs • Follow treatment plan for any underlying cause of decompensated heart failure • Supportive oxygen therapy as required e.g. CPAP • Manages pharmacological treatments including inotropic therapy titration, nitrate and diuretic infusions • Seeks timely medical review for the deteriorating patient • Critical assessment of haemodynamic and respiratory status • Initiates blood tests and CXR. • Understands, manages and troubleshoots IABP therapy • Understands, manages and troubleshoots central lines and invasive haemodynamic monitoring • Keeps patient and family informed regarding therapeutic interventions • Initiates patient and family heart failure education when appropriate 	<ul style="list-style-type: none"> • Expert knowledge of causes and treatments of decompensated heart failure • Troubleshoots management of CPAP, IABP and invasive haemodynamic monitoring • In conjunction with cardiologists, discusses appropriateness of ICD, CRT placement +/- referral to the Transplant Service
Pre and Post Cardiac Surgery	<ul style="list-style-type: none"> • Manages pre and post-operative cardiac surgery • Practice demonstrates understanding of common complications and their management • Assessment and management of pain • Undertakes and troubleshoots wound assessment and management • Undertakes chest drain management, including chest tube removal and assisting with bedside insertion of chest tube • Clinical assessment of rhythms and interpretation of dysrhythmias • Able to recognize pacing rhythm disturbances, and resolve problems • Undertakes supportive respiratory therapy, including tracheostomy care • Manages oral and IV pharmacological treatments • Care for a patient on temporary epicardial pacing, including removal of pacing wires and assisting with threshold testing 	<ul style="list-style-type: none"> • May manage patient flow between the specialty and other areas, eg CICU • Ability to recognise complications such as infections or breakdown, implement action plan, and monitor outcome. This includes complex vac dressings. Resource for wound expertise to other areas • Manage the use of specialised equipment such as pneumostat and Atrium Express chest drains • Request and review laboratory tests and diagnostic studies • May undertake some case-management to improve complex patient journey

Aspect of Care	Specialty Cardiac Nurse	Cardiac CNS
	<ul style="list-style-type: none"> • Recognises and initiates emergency pacing (epicardial and transcutaneous) • Seeks timely medical/surgical review for the deteriorating patient • Critical assessment of haemodynamic and respiratory status 	

8.2 Chronic Heart Disease

Specialty cardiac nurses in will be able to deliver proficient nursing care to patients with cardiac ischaemia, arrhythmias and decompensated heart failure. This requires a comprehensive systematic approach to assessment and management of the cardiac patient across the continuum of care. This recognises cardiology patients may be of low, intermediate or high acuity.

Specialist cardiac nurses (Cardiac CNS) in the chronic care setting deliver effective and advanced nursing care to the complex patient with multiple comorbidities. They work in a broader context to support and develop the specialty nursing workforce. They engage in and lead activities designed to reduce inequalities for chronic cardiac outcomes and improve the quality of care delivered.

Aspect of Care	Specialty Cardiac Nurse	Cardiac CNS
Heart failure	<ul style="list-style-type: none"> Monitors and reviews response to treatment Recognises patients with suspected HF Recognises progression of HF signs and symptoms and takes appropriate action Recognises the importance of co-morbidities in HF and helps plan individualised patient care 	<ul style="list-style-type: none"> Assess, monitor and manage progression of chronic cardiac disease including optimisation of evidence based pharmacological therapy and selection for device therapy such as CRT, and suitability for cardiac transplant Supports patient to maximise self-management strategies to make lifestyle changes. (includes diet, exercise and travel) Plan and deliver individualised patient care, recognising the importance of co-morbidities and have a critical awareness of triggers for clinical deterioration Request laboratory tests and diagnostic studies in collaboration with cardiologists to enable comprehensive assessment and monitoring of progression
Ischaemic heart disease	<ul style="list-style-type: none"> Demonstrates an understanding and facilitates secondary prevention including pharmacological and lifestyle interventions 	<ul style="list-style-type: none"> Initiates pharmacological treatment and lifestyle modification and monitors response
Palliative care	<ul style="list-style-type: none"> Manages patient symptoms and uses appropriate pharmacological and non-pharmacological therapies Supports patient and whanau regarding end of life decisions Follows treatment plan and monitors effectiveness of pharmacotherapy Can locate Advance Care Planning website and has understanding of current resources Initiates Advance Care plan discussion in collaboration with patient, whanau, consultant and GP 	<ul style="list-style-type: none"> Anticipates patient's disease trajectory and modifies treatment accordingly Has undertaken ACP training. Initiates and continues ACP conversations and documents patient preferences around end of life care Advocates for patient, family and Whanau centred end of life choices Manages complexities of discontinuation of device based therapies such as ICDs Coordinates transition of in-hospital to community care as appropriate, utilising community services when needed

Appendix 1

Interventional Cardiovascular Nursing

http://www.csanz.edu.au/wp-content/uploads/2017/07/Standards_Interventional_Cardiovascular_Nursing_Practice_2017.pdf

Appendix 2

Inherited cardiac conditions

Aspect of care	Specialty Cardiac Nurse	Cardiac CNS
Inherited	<ul style="list-style-type: none"> Assessment to include family history of cardiac disease to aid patient diagnosis and establish if other family members are at risk of a genetic inherited heart condition Can create and document a 3 generation pedigree Take fully informed consent to enter into CIDG registry Arranges clinical testing for first degree relatives of the affected individual at discretion of CNS or Doctor Gathers clinical investigations in preparation for cardiology review Provides informational and psychological support to patients undergoing diagnostic investigations 	<ul style="list-style-type: none"> Has a wider knowledge of triggers that can cause symptoms and cardiac arrest and can investigate family free further when triggers or past history presents itself Understands the genetic pattern of inheritance and can recommend which of the family members requires clinical testing in accordance with National /International guidelines Demonstrates an in-depth understanding of clinical diagnostic procedures including the investigations required to diagnose specific inherited heart conditions Prioritises patients waiting for specific testing and clinical cardiology review depending on clinical condition
Genetic testing	<ul style="list-style-type: none"> Facilitate determining of genetic diagnosis which could aid treatment plan and may be able to be used to predictively test family members Can make referral to clinical genetics service for pre symptomatic predictive genetic testing for appropriate family members at discretion of CNS and / or cardiologist Provides health education of inherited disease to improve understanding of disease outcome to support patients and families with diagnosis of Cardiac Inherited Disease 	<ul style="list-style-type: none"> Informs clinically affected probands of the nature of genetic testing and guides informed decision making Discusses the significance of genetic testing results with affected individuals Assists senior nurses and medical colleagues with up to date genetic testing recommendations. Provides effective and in depth health education to improve understanding of inheritance pattern, risk factors associated with condition and genetic diagnosis, healthy life-style, medications and self-management techniques Educates and supports patient and whanau to make appropriate choices about treatment options such as medication, surgical and device therapy Writes and formulates policies and procedures with up to date guidelines for specific testing for inherited heart diseases Assists senior nurses and medical colleagues with up to date clinical testing recommendations
Provocation testing	<ul style="list-style-type: none"> Patient prepared physically and psychologically for pharmacological and non-pharmacological provocation testing for undiagnosed inherited heart disease Demonstrates the ability to correctly prepare patient, equipment and environment for recording of ECG during provocation testing such as Ajmaline Challenge Advanced ECG interpretation 	<ul style="list-style-type: none"> Demonstrates in depth understanding of provocation procedures. Expert ECG interpretation allows CNS to recognise when to terminate procedure for patient safety

Appendix 3

Adult congenital heart disease

Aspect of care	Specialty Cardiac Nurse	Cardiac CNS
Congenital	<ul style="list-style-type: none">• Describes congenital cardiac anatomy• Describes anatomy, physiology and monitoring required for common congenital heart defects• Can educate and prepare patient for common cardiac diagnostic tests• Demonstrates a working knowledge of common drugs used in ACHD• Demonstrates a working knowledge of infective endocarditis prophylaxis guidelines	<ul style="list-style-type: none">• Describes basic cardiac embryology as a means of understanding how congenital heart defects form• Describes the natural history, common sequelae of defect and care required for common congenital heart defects• Demonstrates comprehensive assessment of the patient with ACHD• Describes common cardiac interventional procedures required by patients with congenital heart disease• Describes management of the cyanotic patient• Recognises importance of involving ACHD in pregnancy and contraception discussions• Identifies issues specific to transition to adult care and loss to follow-up care prevention

Guidelines and Resources

Heart Foundation

<http://www.heartfoundation.org.nz/programmes-resources/health-professionals/guidelines-and-position-statements>

CVD risk assessment, management and diabetes screening advice

Cardiac Rehab guidelines summary

Cardiac Rehab summary and resources kit

Heart failure

Rheumatic fever and algorithms

Infective endocarditis

<https://www.heartfoundation.org.au/for-professionals/clinical-information/acute-coronary-syndromes>

<https://www.heartfoundation.org.nz/resources/management-of-chronic-heart-failure-nz-guideline/>

CSANZ Guidelines

<http://www.csanz.edu.au/resources/>

<http://www.csanz.edu.au/nz/guidelines/>

Guidelines for performance of investigations and procedures

National Heart Foundation of Australia & Cardiac Society of Australia and New Zealand: Australian Clinical Guidelines for the Management of Acute Coronary Syndromes 2016

Chew, Derek P. et al. Heart, Lung and Circulation , Volume 25 , Issue 9 , 895 – 951

ST-Elevation Myocardial Infarction Guidelines Group and the New Zealand Branch of the Cardiac Society of Australia and New Zealand. ST-elevation myocardial infarction: New Zealand management guidelines, 2013. NZMJ 2013;126 (1387)

European Society of Cardiology Guidelines

<https://www.escardio.org/Guidelines-&-Education/Clinical-Practice-Guidelines/ESC-Clinical-Practice-Guidelines-list/listing>

Risk Assessment Tools

Cardiovascular Disease Risk Assessment (CVDRA)

<https://www.health.govt.nz/system/files/documents/publications/cvd-risk-assessment-and-management-for-primary-care-v2.pdf>

CVD Risk Assessment for People with Type 2 Diabetes in NZ

<http://www.nzssd.org.nz/cvd/>

European Heart Rhythm Association, European Society of Cardiology

<http://www.chadsvasc.org/>

The Global Registry of Acute Coronary Events (GRACE) score

<http://nstemi.org/grace-score/>

Thrombolysis In Myocardial Infarction (TIMI)

<http://www.timi.org/index.php?page=calculators>

Other Links

Advance Care Planning

<https://www.advancecareplanning.org.nz/>

Fitness to drive

<https://www.nzta.govt.nz/assets/resources/medical-aspects/docs/medical-aspects.pdf>

Fitness to fly

<https://www.airnewzealand.co.nz/special-assistance-flying-with-medical-conditions>

https://www.caa.govt.nz/medical/Med_Info_Sheets/MIS008.pdf

Health Navigator

<http://www.healthnavigator.org.nz/clinicians/a/assessments-guidelines-pathways/>

Atrial fibrillation

Cardiovascular risk

ECG library

Cardiac chest pain pathway

Sore throat

Palliative Care

http://www.hospice.org.nz/cms_show_download.php?id=647

Resuscitation

<http://www.nzrc.org.nz/guidelines/>

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2. Scope of practice, Nurse Practitioner: <http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Nurse-practitioner>
3. [Nursing Council of New Zealand: Competencies for registered nurses](http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Registered-nurse) <http://www.nursingcouncil.org.nz/Nurses/Scopes-of-practice/Registered-nurse>
4. [The National Nursing Consortium: Practice Standards Endorsement. 2013](http://nursingstandards.hiirc.org.nz/) <http://nursingstandards.hiirc.org.nz/>