New Zealand and Australia Society of Renal Dialysis Practice Inc. (NZASRDP)

Dialysis Practice for Clinical Renal Physiologist/Technologists

This handbook contains Clinical Renal Physiologist/Technologist competencies, scopes of practice, code of ethics, registration, certification, recertification/continuous professional development program (CPD) and training standards

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Content

I. Introduction

Clinical Renal Physiologists/Technologists are independent health professionals and an integral member of the renal team. They perform all types of dialysis and other specialised extracorporeal therapies. They independently provide all treatment associated care to patients in collaboration with other health professionals including training and contribution to on-going patient care through primary care/case management.

This document, competency standards, and scope of practice describes the professional, legal and ethical responsibilities, and knowledge and skills required for Clinical Renal Physiologists/Technologists. These apply to all aspects of professional dialysis practice.

Clinical Renal Physiologists/Technologists are required to work under all applicable legislation, including but not limited to:

New Zealand

- Code of Health and Disability Service Consumer Rights Act 1996
- Medicines Act 1981
- Misuse of Drugs Act 1975
- Privacy Act 1993
- Health Practitioner Competency Assurance Act (HPCAA) 2003

Australia (legislation differs state to state)

- Drugs, Poisons and Controlled Substances Act 1981 and Regulations 2017 (Vic)
- National Code of Conduct for health care workers
- Health Records Act 2001 (Vic)

To practice clinical renal physiology/technology in New Zealand, individuals must be registered and hold a current Annual Practicing Certificate (APC) with the Clinical Physiologist Registration Board (CPRB). This is not currently applicable to clinical renal physiologist/technologist practice in Australia.

Clinical Renal Physiologists can obtain registration under the following scopes of practice:

- General scope
- Advanced scope

Clinical Renal Physiologists/Technologists acknowledge The Treaty of Waitangi and Australian Indigenous Health of Aboriginal and Torres Strait Islander peoples, and honours it by ensuring Clinical Renal Physiologists/Technologists embed the principles in their practice.

The New Zealand and Australia Society of Renal Dialysis Practice intends to undertake regular review of this document in response to advances in practice.

II. Purpose

The purpose of this document is to describe the Clinical Renal Physiologists/Technologists of New Zealand and Australia's training and requirements for achieving and maintaining certification and competence within the DHB/organisation under which they are employed. Inherent in this document are the competencies required to practice as Clinical Renal Physiologists/Technologists in New Zealand and Australia. The competencies are designed to integrate all levels of the Clinical Renal Physiologist/Technologist's certification process.

The certification process has clinical and technical skills to which the generic competencies are inherent.

This document includes a full range of activities undertaken by Clinical Renal Physiologists/Technologists in New Zealand and Australia.

III. Competencies

Competencies can be defined as clusters of behaviours arising from an individual's knowledge, skills and personal characteristics that are determinants of superior performance.

There are eight competency standards representing the minimum requirements in key outcome areas for Clinical Renal Physiologists/Technologists in New Zealand and Australia. These competencies apply across the lifespan and continuum of care, integrate cultural diversity, and are of equal importance. At all times the patient is central to the competencies.

Ongoing competence to practice is assessed via the recertification/continuing professional development (CPD) process and local policies and performance processes, in alignment with organisational requirements.

The competencies are expressed in broad terms to allow for continual evolution of Clinical Renal Physiologist/Technologist practice. The competencies developed are to be read in conjunction with the Clinical Renal Physiologist/Technologist scopes of practice.

The eight competencies are:

1. Practice clinical dialysis in a professional manner
2. Communicate effectively
3. Assess, analyse and plan clinical dialysis interventions
4. Provide safe and effective clinical dialysis treatment
5. Apply educational principles to clinical dialysis practice
6. Demonstrate autonomy, practicing within the limits of the certification program
7. Apply management principles relevant to clinical dialysis
8. Demonstrate dialysis related technical practice

Clinical Renal Physiologist/Technologist Competencies

Indicators

1 PRACTICE CLINICAL DIALYSIS IN A PROFESSIONAL MANNER

- 1.1 Operate within the relevant legal and ethical framework
- 1.2 Utilise and apply relevant clinical dialysis principles and theoretical concepts
- 1.3 Practice to acceptable standards within the limits of scopes
- 1.4 Practice dialysis in a manner the client determines to be culturally safe
- 1.5 Plan and show evidence of continuing professional development
- 1.6 Practice in a professional and ethical manner
- 1.7 Demonstrate safe practice maintaining the trust of the patient and their whanau/family
- 1.8 Demonstrate professional behaviour and maintain professional boundaries
- 1.9 Recognise and value the role of all members of the health care team

2 COMMUNICATE EFFECTIVELY

- 2.1 Understand different methods of communication
- 2.2 Demonstrate skills in communication, utilise reporting and presentation skills appropriate to the recipient/s
- 2.3 Work in partnership with health care teams, staff, and community, demonstrating appropriate communication skills
- 2.4 Listen to and interpret appropriately communications of the patient, whanau/family and significant others
- 2.5 Recognise cultural and linguistic diversity in communication

3 ASSESS, ANALYSE AND PLAN CLINICAL DIALYSIS INTERVENTIONS

- 3.1 Understand informed consent
- 3.2 Conduct comprehensive dialysis assessment and perform appropriate interventions
- 3.3 Interpret and evaluate data
- 3.4 Document all finding and interventions
- 3.5 Communicate information and involve others as appropriate

4 PROVIDE SAFE AND EFFECTIVE CLINICAL DIALYSIS TREATMENT

- 4.1 Assess and analyse clinical dialysis interventions and modify as required
- 4.2 Ensure the safety of the patient at all times
- 4.3 Record and document all interventions and outcomes in a legible, timely, and accurate manner
- 4.4 Demonstrate responsiveness to the needs of all cultures

Clinical Renal Physiologist/Technologist Competencies

Indicators

5 APPLY EDUCATIONAL PRINCIPLES TO CLINICAL DIALYSIS PRACTICE

5.1 Understand teaching and learning principles as applied to patients, whanau/family and staff

5.2 Use educational resources appropriate to patient, whanau/family and staff

5.3 Plan and implement education appropriately

5.4 Evaluate outcomes of education and modify appropriately

6 DEMONSTRATE AUTONOMY, PRACTICING WITHIN THE LIMITATIONS OF THE CERTIFICATION PROGRAM

6.1 Adhere to all practice standards within the limitations of the Clinical Renal Physiologist/ Technologist levels of practice

6.2 Demonstrate accountability to the public and Clinical Renal Physiologist/Technologist standards of practice as outlined in the levels of practice

6.3 Plan and show evidence of professional development

6.4 Understand the principles of the Treaty of Waitangi/Australian Indigenous Health and apply to practice

7 APPLY MANAGEMENT PRINCIPLES RELEVANT TO CLINICAL DIALYSIS PRACTICE

7.1 Contribute to the health care team

7.2 Recognise the principles of delegation and supervision

7.3 Maintain relevant, legible and accurate documentation

7.4 Demonstrate effective time management

7.5 Discuss the implications of the Treaty of Waitangi/Australian Indigenous Health with respect to health care delivery

7.6 Understand the principles of continuous quality improvement

7.7 Understand the principles of health care management and leadership within the health care system

8 DEMONSTRATE DIALYSIS RELATED TECHNICAL PRACTICE

8.1 Understand the need for water treatment standards and clinical & technical implications

8.2 Monitor and maintain dialysis water quality standards effectively

8.3 Demonstrate competence in routine preventative maintenance of dialysis machines and water treatment plants

8.4 Inspect and/or diagnose equipment, structures, or materials to identify the causes of errors or other problems or defects

Competency 1: Practice Clinical Dialysis in a Professional Manner

1.1 Operate within the relevant legal and ethical framework	
1.1.1	Completed NZASRDP approved qualification and competencies
1.1.2	Current CRPB Annual Practicing Certificate (NZ members only)
1.1.3	Accept responsibility for ensuring dialysis practice and conduct meets relevant legislative requirements
1.1.4	Adhere to the Privacy Act 1993 (NZ)
1.1.5	Adhere to all other legislation and standards as may be relevant to professional practice
1.2 Utilise and apply relevant clinical dialysis principles and theoretical concepts	
1.2.1	Demonstrate the ability to manage all aspects of dialysis treatment
1.2.2	Demonstrate the ability to carry out history taking and a systematic physical assessment of the patient
1.3 Practice to acceptable standards within the limits of scopes	
1.3.1	Practice in accordance with the NZASRDP Standards of Ethical Conduct and Safe Practice within scope
1.3.2	Exhibit attitudes and behaviours acceptable to the society and the profession
1.3.3	Understand the concept of best practice guidelines
1.4 Practice dialysis in a manner the client determines to be culturally safe	
1.4.1	Apply principles of cultural safety in own practice
1.4.2	Identify the impact of the culture of practice on client care and attempt to protect the client's wellbeing within this culture
1.4.3	Consult with members of cultural and other groups as requested and approved by the client
1.4.4	Demonstrate a working knowledge and understanding of cultural practices and integrate this knowledge into clinical practice and service delivery at all times
1.5 Plan and show evidence of continuing professional development	
1.5.1	Take responsibility for own professional development and sharing of knowledge
1.5.2	Use evidence/research to inform and improve practice
1.5.3	Maintain all evidence of professional development
1.5.4	Support and participate in activities of appropriate professional organisations
1.5.5	Manage personal effectiveness by reflection and review of practice and participating in continuing professional development
1.6 Practice in a professional and ethical manner	
1.6.1	Accept responsibility for ensuring dialysis practice and conduct meets the standards of the professional, ethical, and relevant legislative requirements
1.6.2	Promote an environment that enables client safety, independence, quality of life and health
1.6.3	Be accountable and responsible for own practice
1.6.4	Support and participate in activities of appropriate professional organisations
1.6.5	Maintain current certifications, registrations and licences as applicable
1.6.6	Manage personal effectiveness by reflection and review of practice and participating in continuing professional development
1.7 Demonstrate safe practice maintaining the trust of the patient and their whanau/family	
1.7.1	Demonstrate the ability to apply the principles of the Treaty of Waitangi/Te Tiriti 'o Waitangi/Australian Indigenous Health to clinical practice
1.7.2	Incorporate the principles of patient privacy, patient rights and confidentiality into practice
1.7.3	Practice in negotiated partnership with the patient where and when possible
1.7.4	Establish, maintain, and conclude therapeutic interpersonal relationships with patients
1.8 Demonstrate professional behaviour and maintain professional boundaries	
1.8.1	Demonstrate an ability to maintain a healthy, open, communicating, and functioning team

1.8.2	Practice in accordance with the NZASRDP scopes of practice
1.8.3	Demonstrate an ability to work as a member of a health care team
1.8.4	Demonstrate an ability to stay focused on one's responsibilities to the patient and the provision of helpful and appropriate services to the patient
1.9 Recognise and value the role of all members of the health care team	
1.9.1	Identify and discuss the roles of the relevant health professionals and services available in the community
1.9.2	Communicate to the appropriate health professionals/services with the relevant information in a timely manner
1.9.3	Involve and refer to other health professionals where appropriate
1.9.4	Ensure clinical notes are dated, legible, accurate and concise
1.9.5	Ensure all relevant details are included in referral documentation

Competency 2: Communicate Effectively

2.1 Understand different methods of communication

2.1.1 Discuss different method of communication
2.1.2 Consider factors that may influence communication
2.1.3 Demonstrate the use of open and closed questions
2.1.4 Identify and interpret non-verbal methods of communication
2.1.5 Be aware of the specific demands of cross-cultural communication

2.2 Demonstrate skills in communication, utilise reporting and presentation skills appropriate to the recipient/s

2.2.1 Demonstrate effective listening and questioning skills
2.2.2 Communicate clearly and professionally with the patient/client, whanau/family, carer, and all members of the health care team
2.2.3 Demonstrate empathy and respect
2.2.4 Seek feedback that demonstrates information has been understood
2.2.5 Demonstrate effective verbal and non-verbal feedback
2.2.6 Record/document information provided accurately

2.3 Work in partnership with health care teams, staff and community, demonstrating appropriate communication skills

2.3.1 Recognise team members for their contribution to the body of knowledge that is related to the team's area of expertise, and communicate effectively
2.3.2 Provide access to an interpreter when required
2.3.3 Provide written information in the most appropriate language
2.3.4 Analyse the communication skills of self and others, reflect on evaluation and modify techniques
2.3.5 Practice patient-centred care
2.3.6 Request and provide clarification when needed
2.3.7 Use non-verbal communication appropriately

2.4 Listen to and interpret appropriately communications of the patient, whanau/family and significant others

2.4.1 Listen to the patient/client and respond appropriately including verbal and non-verbal responses
2.4.2 Seek clarification and/or respond with further exploratory questions
2.4.3 Interpret information accurately
2.4.4 Re-evaluate effectiveness of communication

2.5 Recognise cultural and linguistic diversity in communication

2.5.1 Identify the main/preferred language of the patient/client
2.5.2 Use terminology and explanations that are appropriate to the culture, age, and gender of the patient/client and their whanau/family or carer
2.5.3 Identify and clarify incoming information
2.5.4 Seek feedback on understanding of information provided

Competency 3: Assess, Analyse and Plan Clinical Dialysis Interventions

3.1 Understand informed consent	
3.1.1	Understand the requirements of informed consent from both the patient/client and provider perspectives
3.1.2	Understand principles of consent where the patient/client has diminished competence or is unable to give consent
3.1.3	Inform the patient/client about each procedure
3.1.4	Recognise communication needs
3.1.5	Recognise cultural differences
3.1.6	Discuss the influence of culture on treatment options
3.2 Conduct comprehensive dialysis assessment and perform appropriate interventions	
3.2.1	Undertake comprehensive assessment in a systematic and organised way
3.2.2	Use appropriate assessment methods and tools to assist the collection of data
3.2.3	Incorporate surveillance and research needs where data does not exist
3.2.4	Integrate different criteria while assessing and consider them collectively
3.3 Interpret and evaluate data	
3.3.1	Use recommended best practice to support clinical assessment
3.3.2	Combine, evaluate, and reason with information and data to make decisions and solve problems
3.3.3	Use subjective and objective data while evaluating care plan
3.3.4	Ensure appropriate inclusion of patient, whanau/family, and multidisciplinary team while evaluating care plan
3.4 Document all findings and interventions	
3.4.1	Document appropriate and accurate recordings of all relevant information
3.4.2	Ensure each entry is dated, timed, and authenticated with signature and professional credentials contemporaneously to assessment or intervention
3.4.3	Follow individual DHB/organisation documentation policies
3.4.4	Perform assessments and document facts, avoiding subjective statements
3.4.5	Use only DHB/organisation approved abbreviations and symbols
3.4.6	Ensure documentation is clear, concise, and specific
3.5 Communicate information and involve others as appropriate	
3.5.1	Adopt best practice standards while performing handovers
3.5.2	Communicate information in a manner that is easy understood
3.5.3	Ensure statements are direct and unambiguous
3.5.4	Communicate all information required by external individuals or teams

Competency 4: Provide Safe and Effective Clinical Dialysis Treatment

4.1 Assess and analyse clinical dialysis interventions and modify as required	
4.1.1	Ensure all treatment parameters are established as per dialysis prescription, taking pre dialysis assessment into consideration
4.1.2	Initiate dialysis safely within established parameters and within organisation policies
4.1.3	Document all relevant information appropriately and accurately
4.1.4	Monitor dialysis procedure, recognise intra-dialytic complications, and undertake appropriate interventions
4.1.5	Ensure administration of dialysis related medications as prescribed as per organisational medication administration policy; including all renal related medications administered by all routes
4.1.6	Ensure correct medication checking and administration procedure followed as per organisational medication administration policies
4.2 Ensure the safety of the patient at all times	
4.2.1	Practice within the scope of Clinical Renal Physiologist/Technologist as set by NZASRDP
4.2.2	Adhere to the Code of Health and Disability Services Consumers' Rights 1996 (NZ)
4.2.3	Adhere to Medicine Act (NZ)
4.2.4	Adhere to Privacy Act 1993 (NZ)
4.2.5	Adhere to NZASRDP and CPRB (NZ) Standards of Ethical Conduct
4.2.6	Adhere to the Health Practitioners Competence Assurance Act 2003 (NZ)
4.2.7	Adhere to the Drugs, Poisons and Controlled Substances Act 1981 (Australia)
4.2.8	Adhere to the National Code of Conduct for health care workers (Australia)
4.2.9	Adhere to the Health Records Act 2001 (Australia)
4.2.10	Adhere to all other legislation and standards as may be relevant to dialysis professional practice
4.2.11	Understand the concept of best practice guidelines
4.3 Record and document all interventions and outcomes in a legible, timely, and accurate manner	
4.3.1	Document all information appropriately and accurately
4.3.2	Adhere to organisational documentation policies
4.3.3	Ensure all documentation is comprehensive, precise, and completely in a timely manner
4.4 Demonstrate responsiveness to the needs of all cultures	
4.4.1	Demonstrate implementation of the principles of the Treaty of Waitangi/Australian Indigenous Health within organisations
4.4.2	Actively participate in programs to improve cultural awareness within the service
4.4.3	Recognise the multicultural nature of the health population and respond appropriately to their needs

Competency 5: Apply Educational Principles to Clinical Dialysis Practice

5.1 Understand teaching and learning principles as applied to patients, whanau/family and staff

5.1.1 Practice within the scope of Clinical Renal Physiologist/Technologist as set by the NZASRDP
5.1.2 Understand and implement Tikanga best practice guidelines and implement the Treaty of Waitangi/Australian Indigenous Health principles
5.1.3 Act as a role model and mentor for other staff
5.1.4 Understand and incorporate adult learning principles
5.1.5 Discuss the principles of teaching and learning such as identification of learning styles, individual versus group, reflective practice, goal directed, self-directed, and giving and receiving feedback

5.2 Use educational resources appropriate to patient, whanau/family and staff

5.2.1 Practice within the scope of Clinical Renal Physiologist/Technologist as set by the NZASRDP
5.2.2 Give examples of culturally safe practice using Tikanga best practice and the principles of the Treaty of Waitangi/Australian Indigenous Health
5.2.3 Assess the needs of the patient/client to identify the appropriate resources and environment
5.2.4 Select appropriate method of delivery for the individual or size of group, using resources effectively

5.3 Plan and implement education appropriately

5.3.1 Establish learning goals, content and level of understanding
5.3.2 Write learning objectives and plan format and sequencing of sessions to facilitate optimal learning
5.3.3 Implement learning sessions as planned

5.4 Evaluate outcomes of education and modify appropriately

5.4.1 Prepare evaluation modality
5.4.2 Seek feedback
5.4.3 Analyse feedback and modify teaching and education models appropriately

Competency 6: Demonstrate Autonomy, Practicing within the Limitations of the Certification Program

6.1 Adhere to all practice standards within the limitations of the Clinical Renal Physiologist/Technologist levels of practice

6.1.1 Understand the HPCA Act (NZ) and the National Code of Conduct for health care workers (Australia)
6.1.2 Demonstrate an understanding of the legislation relevant to the health practitioner in the country and/or state of employment
6.1.3 Practice within the legislation required of a health practitioner in the country and/or state of employment

6.2 Demonstrate accountability to the public and Clinical Renal Physiologist/Technologist standards of practice as outlined in the levels of practice

6.2.1 Act in the best interests of the patient/client
6.2.2 Respect the rights and dignity of all individuals
6.2.3 Identify the roles and responsibilities of other health professionals
6.2.4 Identify scope of own professional practice and remain accountable for professional decisions and actions

6.3 Plan and show evidence of professional development

6.3.1 Maintain Annual Practicing Certificate (NZ only)
6.3.2 Actively seek and participate in own professional development
6.3.3 Comply with CPD/professional portfolio/recertification process and required by NZASRDP and/or CPRB (NZ)

6.4 Understand the principles of the Treaty of Waitangi/Australian Indigenous Health and apply to practice

6.4.1 Understand the Treaty of Waitangi/Te Tiriti ‘o Waitangi and its relevance to the health of Maori in Aoetearoa/New Zealand
6.4.2 Apply the Treaty of Waitangi/Te Tiriti ‘o Waitangi in clinical practice (New Zealand)
6.4.3 Demonstrate knowledge of differing health a socio-economic status of Maori/Indigenous and non-Maori/Indigenous
6.4.4 Demonstrate use of appropriate resources when providing care

Competency 7: Apply Management Principles Relevant to Clinical Dialysis Practice

7.1 Contribute to the health care team	
7.1.1	Work closely with the multi-disciplinary team
7.1.2	Demonstrate effective handovers
7.1.3	Active involvement in research and clinical trials
7.1.4	Recommend improvements to the organisation, networks and resources
7.1.5	Contribute to development of quality assurance
7.2 Recognise the principles of delegation and supervision	
7.2.1	Act as a role model for all staff
7.2.2	Provide dialysis care in a coordinated manner for all patients and those with complex needs
7.2.3	Provide coaching and mentoring to staff and/or students, teaching theoretical and practical aspects of the dialysis process
7.2.4	Build, coordinate, and lead teams
7.3 Maintain relevant, legible, and accurate documentation	
7.3.1	Actively participate in the development and execution of documentation
7.3.2	Ensure that the ethical and legal requirements of documentation are upheld and completed
7.3.3	Ensure legible, accurate, and timely records are maintained
7.4 Demonstrate effective time management	
7.4.1	Demonstrate efficient time management
7.4.2	Understand service priorities and goals
7.4.3	Review workload and priorities regularly
7.5 Discuss the implications of the Treaty of Waitangi/Australian Indigenous Health with respect to health care delivery	
7.5.1	Identify the principles of the Treaty of Waitangi; participation, partnership and protection (NZ)
7.5.2	Incorporate the four cornerstones of Maori Health into the provision of dialysis care; physical health, mental health, spiritual health and whanau (NZ)
7.5.3	Identify the health care team/s and cultural support system/s for each patient/client
7.6 Understand the principles of continuous quality improvement	
7.6.1	Identify components of a quality plan
7.6.2	Discuss the role of quality assurance, such as the principles of an accreditation/audit program
7.6.3	Demonstrate knowledge of the National Safety and Quality Health Service Standards and apply these to clinical practice (Australia)
7.7 Understand the principles of health care management and leadership within the health care system	
7.7.1	Identify the principles of organisational management
7.7.2	Explain the structure of the health care system in New Zealand and/or Australia
7.7.3	Benchmark organisational structures within the health care system in New Zealand and/or Australia

Competency 8: Demonstrate Dialysis Related Technical Practice	
8.1 Understand the need for water treatment standards and clinical and technical implications	
8.1.1	Recognise and understand the need for water treatment systems and their operation
8.1.2	Demonstrate comprehensive knowledge and skills in water treatment standards and methods, and their clinical and technical implications
8.1.3	Demonstrate knowledge and understanding of the available methods of water treatment and their appropriate application
8.2 Monitor and maintain dialysis water quality standards effectively	
8.2.1	Monitor the quality of the source and treated water
8.2.2	Demonstrate competency in daily, weekly, monthly and yearly water testing
8.2.3	Familiarity with international water treatment standards and organisational related policies and procedures
8.3 Demonstrate competence in routine preventative maintenance of dialysis machines and water treatment plants	
8.3.1	Undertake preventative maintenance of dialysis machine and water treatment plant
8.3.2	Ensure appropriate and accurate recording of equipment service and stock movement
8.3.3	Ensure adequate and accurate stock holding in an appropriate environment, including rotation of supplies
8.4 Inspect and/or diagnose equipment, structures, or materials to identify the causes of errors or other problems or defects	
8.4.1	Identify dialysis equipment problems and take appropriate action

XII. Scope of Practice for Clinical Renal Physiologists/Technologists

Clinical Renal Physiologists/Technologists undertake dialysis care for renal patients, provide care associated with dialysis, and contribute to training for patients undertaking their own dialysis.

The Clinical Renal Physiologist/Technologist scope of practice is influenced by the contexts in which the individual practices, their education, experience, level of competence and confidence and the policy requirements of the service provider. Clinical Renal Physiologists/Technologists complete their training, professional portfolio, and competency audits in order to be deemed competent in their area of practice.

Haemodialysis core clinical skills

- Assessment and monitoring pre haemodialysis
  - General wellbeing/changes in patient status
  - Physiological observations
  - Weight/fluid assessment
  - Vascular access
- Carry out diagnostic tests as prescribed (biochemistry, haematology, microbiology, virology) and following up results
- Prepare haemodialysis machine and associated equipment for treatment
- Commence haemodialysis via all types of access
  - Temporary catheter
  - Tunnelled line
  - Cannulation of arteriovenous fistula (AVF) and arteriovenous graft (AVG)
- Perform haemodialysis treatment including low flux dialysis, hi flux dialysis, haemofiltration, online haemodiafiltration (HDF)
- Complete haemodialysis treatment as prescribed, implementing changes as directed by the medical team
- Monitor haemodialysis treatment
  - Haemodialysis machine
  - Patient
    - Effects of treatment
    - Physiological observations
- Perform treatments associated with haemodialysis
  - Isolated ultrafiltration
- Recognise, assess, monitor and manage/escalate intra-dialytic complications according to policies
  - Hypotension/hypertension/blood pressure related complications
  - Anaphylaxis
  - Haemolysis
  - Air embolus

    - Blood leak
    - Extravasation
    - Clotted circuit
- Discontinue haemodialysis treatment
- Assessment and monitoring post haemodialysis
    - General wellbeing/changes in patient status
    - Physiological observations
    - Weight/fluid assessment
- Perform haemodialysis access assessment, monitoring and management
- Assess dialysis adequacy and vascular access recirculation
    - Interpret/escalate results
- Assess catheter exit site and perform haemodialysis related dressing changes
- Perform haemodialysis treatment in chronic, dependent, and satellite settings
- Assess patient's clinical needs, when needs are outside of scope of Clinical Renal Physiologist/Technologist refer to appropriate health professional in multi-disciplinary team

Haemodialysis advanced clinical skills

- Perform haemodialysis appropriately in acute, critical care, paediatric, patient training environments
- Assess, use and monitor newly created/cannulated AVF/AVG accesses
- Perform single needle dialysis and assess when indicated
- Train and case manage home patients
- Supervise and mentor students/new/inexperienced staff
- Initiation and/or participation in research and clinical trials

Specialised clinical training in haemodialysis related procedures

These procedures require specific certification from the educator in haemodialysis at the local DHB/organisation:

- Therapeutic plasma exchange
- Haemoperfusion
- High cut off (free light chain) dialysis
- Tunnelled line repair kit change

Haemodialysis core technical skills

- Competent use of all types of haemodialysis machines used within the renal service
- Perform preventative maintenance, minor technical troubleshooting and escalation, machine disinfection and cleaning
- Perform water quality monitoring tests such as hardness and chlorine
- Perform haemodialysis machine and water treatment system filter changes
- Central water treatment and reverse osmosis system
    - Chemical disinfection
    - Water sampling
    - Periodic water treatment plant monitoring, testing and documentation
- Portable water treatment and reverse osmosis system
    - Use and operation
    - Filter changes
    - Chemical disinfection

- Troubleshooting
- Water quality testing, monitoring and documentation

- Operate, test, and monitor essential equipment associated with dialysis
  - Automated external defibrillator
  - Oxygen and suction
  - Glucometer
  - Activated clotting time monitoring machine
  - Medication fridge
  - Blood pressure equipment/machine
  - Pulse oximeter
  - Thermometer
  - Any equipment used in trials

Haemodialysis advanced technical skills

- Endotoxin testing and/or use of endo safe
- Emergency bypass of central reverse osmosis machine
- Water sampling for online substitution fluid
- Central reverse osmosis and haemodiafiltration machine baseline programming

Peritoneal dialysis core clinical skills

- Assessment and monitoring pre dialysis
  - General wellbeing/changes in patient status
  - Physiological observations
  - Weight/fluid assessment
- Peritoneal dialysis bag exchanges
- Carry out diagnostic tests as prescribed (biochemistry, haematology, microbiology, virology) and following up results
- Exit site care/classification
- Peritonitis management according to policies
  - Peritonitis risk assessment
  - Treatment
- Peritoneal dialysis catheter care according to policies
- Automated peritoneal dialysis machine set up, operation and troubleshooting
- Assess patient's clinical needs, when needs are outside of scope of Clinical Renal Physiologist/Technologist refer to appropriate health professional in multi-disciplinary team

Peritoneal dialysis advanced clinical skills

- Tenckhoff line decontamination and repairs
- Perform and interpret peritoneal dialysis adequacy tests
- Recognise and manage extra peritoneal leaks
- Train and case manage home patients
- Home support visits
- Supervise and mentor students/new/inexperienced staff
- Initiation and/or participation in research and clinical trials
- Maintaining key performance indicators
  - Peritonitis rates
  - Treatment numbers

- Patient numbers

Fluid and medication administration in dialysis practice

Clinical Renal Physiologists/Technologists complete and maintain IV certification/medication administration assessments in order to administer fluids, medications and blood products associated with dialysis. All medications administered are as prescribed, and in accordance with local DHB/organisation policies.
Clinical Renal Physiologists/Technologists commonly administer renal related medications as part of or in association with dialysis procedures.

Intravenous (IV)/Intradermal (ID)/Subcutaneous (SC)/Intraperitoneal (IP)/ Intramuscular (IM) Medications
Clinical Renal Physiologists/Technologists administer renal related IV, ID, SC, IP and IM medications as per DHB/organisation policies, which include medication administration procedures and checking requirements.

Oral
Clinical Renal Physiologists/Technologists administer renal related oral medications as prescribed, as per DHB/organisation policies, which include medication administration procedures and checking requirements.

Blood products and components
Blood and blood products/components may be administered by Clinical Renal Physiologist/Technologists in association with the dialysis procedure, and in accordance to DHB/organisation policies, which include administration procedures and checking requirements.

General core skills

The following general core skills are clinical and non-clinical skills expected of all Clinical Renal Physiologists/Technologists and other healthcare workers as applicable to their area of practice. Mandatory training/competencies may be required in accordance to DHB/organisation policy.

- Infection prevention principles
  - Aseptic non-touch technique
  - Personal protective equipment
  - Standard/additional precautions
  - Hand hygiene
  - Equipment disinfection
- Emergency management and escalation
  - Clinical/patient emergency
    - Cardiac/respiratory arrest
    - Cerebrovascular accident
    - Adverse reactions
  - Non-clinical emergency
    - Fire/smoke
    - Evacuation
    - Bomb threat
    - Natural disaster

        - Internal/external emergency
        - Anger and aggression
        - Armed threat
        - Interruption to power supply
        - Interruption to water supply
- Occupational health and safety principles
    - Patient/equipment manual handling
- Diabetes management
    - Monitoring
    - Management/treatment of hypoglycaemia
- Documentation
    - Compliance
    - Management
    - Computer/IT systems
- Patient falls/pressure injury risk
    - Identification/assessment/classification of risk
    - Management and/or referral/escalation

XIII. Training and Certification

Clinical Renal Physiologists/Technologists must complete the following dialysis training and associated clinical training:

Training in dialysis practice

- Completion of a training course approved by the NZASRDP and internship
- NZASRDP approved dialysis certification exam
- Undertake local DHB/organisation mandatory training and certification program and review clinical skills as required
- Maintain Annual Practicing Certificate with CPRB – NZ only

NZASRDP approved renal dialysis qualification

Graduate Diploma in Health Science (Dialysis) – Manukau Institute of Technology (MIT)

https://www.manukau.ac.nz/study-options/areas-of-study/nursing-and-health-studies/health-science-specialisation/graduate-diploma-in-health-science-and-technology-dialysis

XIV. Registration

Applicable to New Zealand members only

It is a requirement to have a registration with the CPRB to practice as a Clinical Renal Physiologist in New Zealand.

Please follow the links below for more information regarding:

- Registration - http://www.cprb.org.nz/About-Registration
- APC - http://www.cprb.org.nz/About-APCs
- CPD/recertification - http://www.cprb.org.nz/Continuing-Professional-Development
- Standard of conduct, performance and ethics - http://www.cprb.org.nz/Standards-of-Conduct

XV. Code of Ethics

NZASRDP Code of Ethics can be found here:

http://nzbdp.com/documents/code%20of%20ethics%20NZBDP.pdf

XVI. Continuing Professional Development Program (CPD)

Clinical Renal Physiologists/Technologists must complete 18 CPD entries over any three year period. This must include at least one entry from each of the following categories for each year:

- Learning from experience in the workplace
- Learning from structured courses
- Learning from self-directed personal work

CPD expectations are the same for both New Zealand and Australian members but are administered differently as follows:

New Zealand

Professional portfolio maintained by individual and audited as per NZASRDP and CPRB

Australia

Professional portfolio maintained by individual and audited as per NZASRDP

XVII. Appendices

XVIII. Acknowledgements

The writer would like to acknowledge the following sites as being indicators for the development of the above document:

- Australian and New Zealand Podiatry
- Competency standards: February 2009
- Physiotherapy Board of NZ
- Physiotherapy Competencies for Physiotherapy Practice in NZ
- Recertification Guidelines January 2009
- NZ Nursing Council
- NZ Dental Council
- Section 6 Reference Resources
- Competency framework for practice excellence
- Child, Youth and Family April 2008

- Australian National Safety and Quality Health Service Standards
- Nursing and midwifery Board – Registered nurse standards for practice