

Learning Package



Health
Hunter New England
Local Health District

Renal: Undergraduate RN Introduction to Haemodialysis

Sites the learning package applies:	Dialysis units responsible for hosting UGRN students
Description:	This learning package provides resources for UGRN students to expand of their knowledge and skills in Renal nursing and dialysis.
Target audience	Undergraduate Registered Nurses (UGRN) undertaking clinical placement in Dialysis Units at HNELHD
Learning Outcomes On completion of this package you will be better able to:	<ul style="list-style-type: none"> • Identify the requirements of a clinical practice experience within Dialysis and verbalise the skills and knowledge gained, at the completion of the placement. • Outline the principle of dialysis (diffusion, osmosis and ultrafiltration) as they apply to haemodialysis and the factors that influence these factors. • Recall how the dialysis apparatus functions in relation to haemodialysis. • Participate in providing care to a patient undergoing di dialysis including, eligibility, assessment, access for dialysis, initiation of treatment, patient education and training, and care during and after dialysis. • Name common complications of dialysis including their signs and symptoms and describe the relevant management strategies.
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Related Legislation, Australian Standard, NSW Ministry of Health Policy Directive or Guideline, National Safety and Quality Health Service Standard (NSQHSS) and/or other, HNE Health Document, Professional Guideline, Code of Practice or Ethics:	
<ul style="list-style-type: none"> • Infection Prevention and Control Policy [PD2017_013] • NSW Health Policy PD 2005_406 Consent to Medical Treatment http://www.health.nsw.gov.au/policies/PD/2005/pdf/PD2005_406.pdf • Renal Guidelines and Procedures http://ppg.hne.health.nsw.gov.au/ 	
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2017



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Learning Package Overview

Purpose: *This package is designed to provide information and to guide Undergraduate Registered Nursing students in identifying learning needs and opportunities whilst on clinical placement in dialysis. Completing this package will enhance your clinical practicum experience through acquisition of skills and knowledge relevant to renal nursing and care of the dialysis patient.*

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Introduction

The Department of Nephrology for HNELHD is committed to providing resources for nursing staff and students to support the expansion of their nephrology knowledge and skills. This package is aimed at Under Graduate RN students undertaking clinical placement in Dialysis Units within HNELHD and aims to guide students in their learning needs to further enhance their clinical skills and knowledge.

Disclaimer

This learning package has been prepared by health professionals at Hunter New England Local Health District in Renal Services. While care has been taken to ensure that information is accurate at time of development, it is recommended that information is checked before use if utilised by another unit, context or organisation.

Naming Convention

Renal: Undergraduate RN Introduction to Haemodialysis

Aim

This learning package provides resources for Undergraduate RN students to expand their knowledge and skill in renal nursing and haemodialysis.

Learning Objectives

At the completion of the package you will be able to:

- Identify the requirements of a clinical practice experience within Dialysis and verbalise the skills and knowledge gained, at the completion of the placement.
- Outline the principle of dialysis (diffusion, osmosis and ultrafiltration) as they apply to haemodialysis and the factors that influence these principals.
- Recall how the dialysis apparatus functions in relation to haemodialysis.
- Participate in providing care to a patient undergoing dialysis including, assessment, access for dialysis, initiation of treatment, patient education and training, and care during and after dialysis.
- Name common complications of dialysis including their signs and symptoms and describe the relevant management strategies.

Pre-requisites

There are no formal prior learning requirements.

Learning Package Outline

The package is designed to be a self-directed learning experience that will guide you through the literature and clinical issues related to renal nursing. This package is developed within an adult learning framework so not all activities need to be documented but it is expected that you will complete them to facilitate your learning.

Clinical placements are of varied duration dependent upon the stage at which the placement is allocated. It is hoped in this package to provide guidance to students in what is expected of them and to allow them to participate fully in their clinical placement. Considerations of skill level and stage of course should be taken into account when determining the clinical skills that may be attempted.

In addition to this resource students are provided with an orientation manual for the Dialysis centre at the commencement of their placement. This is available from the Clinical Support Officer, Ward Clerk or Nurse Unit Manager. You are required to familiarise yourself with the orientation manual and ensure you understand emergency procedures and workplace health and safety requirements for staff in these clinical areas.

Most importantly, if you are unsure of your responsibilities ask one of the senior clinicians including a clinical mentor/clinical facilitator/Clinical Nurse Educator/Nurse Educator/Clinical Nurse Consultant or Nurse Unit Manager to clarify roles.

Problem based learning

This program is based on a problem-based approach to learning. This approach has been chosen to enhance critical thinking, and to create a body of knowledge that the student can apply to practice. Problem based learning (PBL) is characterised by the use of patient specific problems or situations as a context for developing problem-solving skills and for acquiring clinical knowledge.

How to use this resource




Throughout this package there are readings and activities that you can access to enhance your understanding of renal nursing. Readings are divided into two categories, those included in the appendices, and those that are identified as online readings. The online readings are not provided due to copyright law restrictions.

If you have any difficulty locating the readings please seek assistance from the Renal Options Co-ordinator based at the Wansey Dialysis Centre (02) 49048800 or the Nephrology CNE/NE or CNC in your area.

Record of learning

This program is registered on My Health Learning as Renal: Undergraduate RN Introduction to Haemodialysis (168546627). If you have an employee number with NSW Health, this learning package is able to be recorded following completion. You will also be provided with a certificate of completion.

This package uses the following icons:

	<p>READING This icon alerts you to undertake reading related to the topic this may include Safe Work Practices, Journal Articles or Books</p>
	<p>LEARNING ACTIVITY This icon denotes a learning activity or competency assessment that you will need to complete</p>
	<p>GUIDELINES This icon alerts you to the presence of a guideline or procedure related to the subject</p>

Assessment process

Return the completed package to your CNE/NE/CNS/CNC who will provide feedback

Reflection tool

After completing the package use the reflection form to determine how the package met your learning needs.

Evaluation

A learning package evaluation form when you have completed this package is found on page 20. You will need to return this to the relevant CNE/NE/Renal Options Co-ordinator/CNC.

This form is used to inform future updates and modifications of the learning package according to ongoing feedback from the user.

Students undertaking a clinical placement in a dialysis unit for a two weeks or more should be able to complete the learning activities within this package with support from the clinical nursing team.

KIDNEY DISEASE IN AUSTRALIA

Chronic kidney disease (CKD) is responsible for a substantial burden of illness and premature death. 1.7 million Australians aged over 18 years have developed signs of CKD. This equates to one in every ten individuals. CKD develops over time and although disease progression can be slowed, damage it is not reversible. Screening for CKD is a recommendation by the World Health Organisation within the primary health setting.

Risk factors for CKD are:

- Aged over 60 years
- Cardiovascular disease
- Hypertension
- Obesity
- Family history of kidney disease
- Diabetes
- Aboriginal or Torres Strait Islander origin
- Smokers

As CKD progresses the individual becomes symptomatic of renal dysfunction. The body is no longer able to maintain homeostasis and reaches what is termed end-stage kidney disease (ESKD). There is often much confusion regarding the terms CKD and ESKD, the terms are not interchangeable. An individual with CKD may be unaware and asymptomatic of their health breakdown, while ESKD requires intervention in the form of renal replacement therapy (dialysis or transplant) to maintain homeostasis.



READING for HDx

Agar, J. W., McGregor, M. S. & Blagg, C. R. (2007). Chronic maintenance haemodialysis: Making sense of the terminology. *Hemodialysis International*, 11, 252-262.

Available online through the Ovid Database.

Kidney Health Australia: http://kidney.org.au/cms_uploads/docs/state-of-the-nation-2015-web.pdf

Note: This web site has current Australian based information and worth exploring.

HAEMODIALYSIS PRINCIPLES

Learning outcome relating to this Outline the principle of dialysis (diffusion, osmosis and ultrafiltration) as they apply to haemodialysis and the factors that influence these principals.

Dialysis is the removal of waste products, molecules and fluid from the body across a semi-permeable membrane. Haemodialysis and peritoneal dialysis utilise the same principles, only the application is different. The principles of dialysis are:

- Diffusion
- Osmosis
- Ultrafiltration
- Solute drag
- Convection

The definitions presented here are summarised versions found in the literature and have been compiled from the references cited in the reference list.

Solutes Solvents and Solutions

These terms assist in the understanding of the principles of dialysis and in examining the mechanism by which dialysis is used to treat ESKD.

- Solutes are dissolved substances
- Solvents dissolve substances
- Solutions are the end product

Therefore solutes dissolve in a solvent to form a solution. An example is table salt (the solute) is able to be dissolved in water (the solvent) to form salty water (the solution)

Semi-permeable Membrane

A semi-permeable membrane is a membrane that is permeable to water and small ions, molecules or solutes, but is not permeable to larger molecules or plasma proteins. Think of the semipermeable membrane as a sieve. Depending on the size of the holes in the sieve, the sieve allows liquid and small items (those smaller than the holes of the sieve) to pass through, but holds back the larger items that are bigger than the holes of the sieve.

Diffusion

Diffusion is the movement of solutes across a semi-permeable membrane from an area of high solute concentration to an area of low solute concentration. Solute continues to move until equilibrium is established. Smaller solutes move more rapidly than larger solutes or molecules. The time it takes for equilibrium to occur depends on many factors, the most significant of which are:

- Individual patient physicality
- The size of the solute
- The amount of solute on each side of the semi-permeable membrane (also known as concentration gradient)
- Permeability of the semi-permeable membrane

Osmosis

Osmosis is the movement of water from an area of high water concentration to an area of low water concentration across a semi-permeable membrane. If enough time is allowed water will

reach equilibrium on either side of the semi-permeable membrane. The rate of osmosis depends on many factors the most significant of which are:

- The individual patient physicality
- Concentration differences that exist on either side of the semipermeable membrane
- Permeability of the semipermeable membrane to water

Osmotic gradients exist when the osmolality of the solution on one side of the membrane differs from the osmolality of the solution on the other side of the membrane.

Ultrafiltration

The clinical application of osmosis (shifting process of water) is ultrafiltration. In ultrafiltration the mechanism of fluid removal/shifting is manipulated by applying pressure to one side of the membrane. This pressure can be a negative or positive pressure that increases the movement of water. It can also be manipulation of the osmotic gradient that causes the movement of water.

During haemodialysis, positive and negative pressure can be applied to the fibres of the dialyser to achieve fluid movement. Both positive and negative pressures are used during haemodialysis:

- Positive pressure: A pressure resulting in fluid being pushed across the membrane. This is defined as a combination of the venous blood flow rate and venous pressure.
- Negative pressure: A pressure resulting in fluid being pulled across the membrane. This is defined as dialysate pressure created by the machine that pulls fluid across the dialyser.



LEARNING ACTIVITY

Think about the type of patients who require haemodialysis.

What are some of the common diseases that might lead to this?

If you or your family member required haemodialysis, how might this effect your lifestyle?

CLINICAL PRACTICE

Understanding the technical aspects of dialysis as discussed above can greatly contribute to being able to follow the treatment that is occurring to the patient on a regular basis. Combining knowledge of renal anatomy and physiology with the principles of dialysis gives a good understanding of the practical aspects of haemodialysis and peritoneal dialysis and its impact upon the patient.

In the clinical setting there are two types of haemodialysis machines located at Wansey Dialysis Centre. The Gambro AK98 used for the training of Home Haemodialysis (HHD) patients and Fresenius 5008 used for all other haemodialysis patients. The 5008 is also located at the dialysis units elsewhere with the HNELHD. If patients are unable to attend HHD, then they are trained to be as independent and self-caring with aspects of their treatment as far as practicable in all units on these machines.

CLINICAL SKILLS DEVELOPED DURING PLACEMENT

1. Preparing machines for dialysis

Students on clinical placement will be shown how to prepare the machine for treatment including lining the machine, putting machines through their test stages and recirculating the machine prior to patient connection. There is a stock of 'practice' lines for the machines which students are encouraged to use to consolidate their knowledge with skills.

Dialysis machines are prepared with single use sterile lines and dialysers. These require priming to ensure that the lines do not contain air. It further ensures that the dialyser's fibres are bathed in dialysate fluid so no areas within the dialyser are more prone to adherence of blood while treatment is carried out, leading to possible clotting within the dialyser.

Renal nursing staff can show you the correct procedure for priming. Once the lines and dialyser are primed, the procedure is then to connect the lines to form a closed circuit with the pump slowly flushing the prepared circuit prior to connection of the patient.

2. Preparing the heparin syringe

Heparin sodium is used as an anticoagulant within the dialysis circuit to minimise the potential for clotting within the lines. The heparin is drawn up in a 20mL syringe to a standardised amount of drug per volume, currently either 500 or 1000 International Units of Heparin in 1mL of solution dependant on where you are working. The current practice is to either use undiluted heparin in a 20mL syringe (New England Area) or dilute two vials of Heparin 5000 IU with 10mL of 0.9% sodium chloride to achieve the desired concentration. Carrying out the normal two nurse check of an IV drug prior to connecting to the dialysis circuit must be attended by two Registered nurses (RN) or an RN and an EN. You as a student can participate in this process and initial the chart as long as you document your name on the signature ID chart located in the patient's folder.

3. Pre dialysis clinical assessment

Students with their clinical mentor are required to participate in the assessment to ensure patients are provided safe and appropriate dialysis treatment. The nurse will assess the following patient parameters **pre-dialysis**, **during** treatment (*as patient's condition warrants*), and **post-dialysis**:

- Weight (*pre and post only*), blood pressure (*hourly*), heart rate and rhythm, respiratory rate and quality, temperature (*pre/post and during as the patient's condition warrants*), and dialysis vascular access.
- Assess patient's general condition including: oedema, skin, mental status, ability to ambulate, level of functioning, general sense of well-being, and any change from baseline.
- Solicit information from the patient and evaluate any symptoms before initiation of dialysis, during dialysis (*P's & D's rounding*), and prior to discharge from the renal unit the following:
 - headache
 - dizziness & blurred vision
 - nausea, vomiting, diarrhoea, constipation, or tarry stools
 - fever & chills
 - shortness of breath, dyspnoea
 - chest pain, palpitations
 - pain, bleeding
 - insomnia
 - weakness, fatigue, or change in level of activity
 - changes in appetite
 - review laboratory test results prior to initiation of treatment

In addition to the above, assess the patient during dialysis for any of the following:

- blood pressure and pulse outside of established parameters
- respiratory rate and quality outside of established parameters
- temperature outside of established parameters
- any new complaint reported by patient
- change in mental status
- haemodialysis access



LEARNING ACTIVITY

Locate and review the following documents:

HNELHD GandP 16_07 Patient assessment for a haemodialysis treatment.

HNELHD CG 16_29 Ideal body weight assessment for Haemodialysis Patients

What are some of the impacts of fluid gain on a patient's haemodialysis treatment?

What might exclude a patient from being able to undergo their dialysis treatment?

4. Fluid calculations for ultrafiltration volume

Ultrafiltration is the volume of fluid required to be removed during the dialysis treatment. It is important to recognise this needs to be assessed each time the patient attends for dialysis and is based upon the clinical assessment undertaken above.

Dialysis patient's ability to form urine is impaired or lost entirely. This means any fluid normally released as urine needs to be removed as part of the dialysis process. Physicians generally limit the amount of fluid that may be ingested during non-dialysis days to around 1000mL fluid daily (compared to a normal fluid intake of 3000 mL daily).

Since thirst is in part dependent on the amount of salt in the diet, reduction in salt intake makes it much easier to reduce fluid content. Drinking more than the advised limit, could result in overloading of the cardiovascular system. This is also associated with health problems in both the long and short term. The removal of large interdialytic weight gains is poorly tolerated by many patients and may mean extending the treatment time to ensure that all the fluid gained is removed.

Any fluid gained between treatments needs to be removed during dialysis. The requirement to remove large volumes during dialysis may be poorly tolerated and result in hypotension or low blood pressure during dialysis. Tolerance may be helped by the use of profiled ultrafiltration in which the rate of fluid removal is varied during treatment.

The ultimate aim of fluid removal during dialysis is to return the patient to his or her ideal body weight (IBW) by the end of the dialysis session. IBW being the lowest post dialysis weight the patient can tolerate without the development of symptoms or hypotension. Ideal weight is merely a clinical estimate, and the patient may still be over hydrated and be 1 - 2 kg above their IBW without clinical signs or symptoms.

Some patients do not tolerate the fluid removal well. Excess fluid removal may result in cramps or a fall in blood pressure. Not removing enough fluid may leave the patient overloaded, putting added strain on the heart, keeping the blood pressure high and causing difficulty for the next treatment. Thus, the goal is to target a weight where the patient will be normally hydrated and remove fluid at a rate which keeps the patient comfortable. Patients should limit their salt intake since excess salt leads to thirst and greater fluid intake which makes it difficult to achieve IBW.



READING

Davies A, – How to perform fluid assessments in patients with renal disease, *Journal of Renal Nursing*, Vol 2, No 2, 2010.

Agar, J. 2007, Fluid Solute and Removal Part One and Two, located in Nephrology shared drive: J:\Hunter Renal\Fluid Assessment articles

See the Renal Options Co-ordinator/CNE/NE/CNC if unable to access via OVID online.

5. Post dialysis clinical assessment

Dialysis nurses should be able to assess a patient's response to the delivery of the haemodialysis prescription, something you will observe during your placement:

- psychosocial adjustment to haemodialysis
- understanding of haemodialysis
- haemodialysis principles
- haemodialysis procedure
- current treatment prescription
- signs and symptoms of haemodialysis complications
- anticoagulation regimen
- vascular access
- routine laboratory test
- monitoring of haemodialysis adequacy
- medication
- sodium restriction and thirst management
- reporting of occurrences and any emergency procedures while on haemodialysis

6. Renal patient dietary needs

Critical to maintaining health on dialysis is a good understanding of dietary effects on the disease process. Dialysis is not efficient at removing some waste products and maintaining electrolyte levels in the blood stream including phosphate, potassium and calcium. Renal patients need to be encouraged and educated to monitor and control their intake of high phosphate, potassium and calcium foods. Diet is a crucial determinant for how well someone can tolerate dialysis and is a crucial aspect that can be directly affected by how well the patient understands their dietary requirements.

Nutrition and CKD - some basic facts

Helping the kidneys to control body chemistry by eating a sensible diet is an early and important form of treatment for kidney failure. Being careful with dietary intake can reduce the amount of fluid and waste build-up and help long term management. The following substances feature in renal diets: protein, sodium, potassium, phosphate, calcium, fluids, fats and carbohydrates.

Why is nutrition so important?

When food is broken down in the stomach and intestines, normally, waste products are excreted in urine. If the kidneys are not filtering the toxic build up efficiently, the patient will begin to feel weak, tired, itchy and nauseated. The other balancing act the kidneys perform is the regulation of the body's fluid balance. Some people with kidney disease may retain fluid, which leads to puffiness, swollen ankles, hands and feet and breathlessness.



LEARNING ACTIVITY

Use websites for kidney patients, such as Kidney Health Australia, Edren.org, Kidney UK to source some patient information sources for dietary advice. Consider how you would answer questions from patients about dietary restrictions.

If you were concerned about a patient's condition during haemodialysis what would you do?

7. Attending to a Permacath Dressing

Refer to: *Central Venous Access Device (CVAD) Dressing HNELHD GandP 16_18* for assistance with this procedure.

Patients attending dialysis can have any of three forms of access - native arterio-venous fistula, artificial arterio-venous graft and a double lumen catheter/permacath.

What is a venous catheter for temporary access?



A catheter is a tube inserted into a vein in your neck, chest, or leg near the groin. It has two chambers to allow a two-way flow of blood. Once a catheter is placed, needle insertion is not necessary.

Catheters are not ideal for permanent access. They can clog, become infected, and cause narrowing of the veins in which they are placed. But if you need to start haemodialysis immediately, a catheter will work for several weeks or months while a more permanent access (fistula or graft) develops.

For some people, fistula or graft surgery is unsuccessful, and they need to use a long-term catheter for dialysis access.

Catheters that will be needed for more than about 3 weeks are designed to be tunnelled under the skin to increase comfort and reduce complications. Even tunnelled catheters, however, are prone to infection.



LEARNING ACTIVITY

It is expected that students will be able to observe and then undertake a dressing of a permacath under direct supervision of an RN after prerequisites for CVAD management have been completed. Use this space to reflect on that experience:

What date did you observe the practice? _____

How did the clinician discuss the procedure with the patient? _____

What did they do to prepare for the procedure? _____

What date did you demonstrate this practice? _____

What did you feel you did well? _____

What would you change about your practice next time? _____

How did it feel to complete this task? _____

What feedback were you provided? _____

8. De-cannulation of AVF/AVG Access

Cannulation of an AVF/AVG requires the placement of two fistula needles. The size of the vessel and unit protocol will determine the needle gauge.

- The fistula needles allow the patient’s blood to be removed for fluid and waste product removal (arterial), and then returned (venous).
- When removing these needles staff should have the appropriate PPE (goggles or face shield, plastic apron and gloves). The needles are removed one at a time with platypus needle covers to decrease likelihood of needle stick injury. Two fingers are used to apply firm pressure that ensures clot formation but does not occlude the vessel for a minimum of ten minutes.
- Staff are to use gauze for this process then once bleeding has stopped a dot Band-Aid is applied. This is then repeated for the removal of the second needle.
- It should be noted that some patients are competent in this process and attend to this themselves. They require assistance in accessing the sharps container for needle disposal only.



LEARNING ACTIVITY

Whilst in the unit please take the opportunity to listen, feel and look at a patient’s fistula. Observe the wash back procedure and locate the step-by-step instructions in the relevant G&P. Observe the staff/patient removing needles from an AVF/AVG.

What equipment did they use?

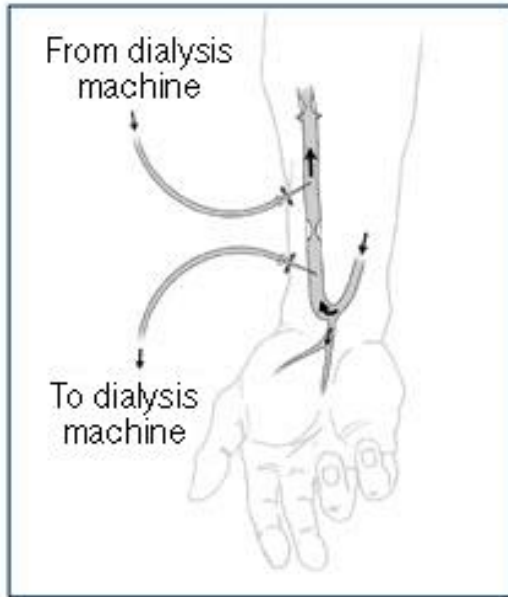
How were the needles removed and why?



READING

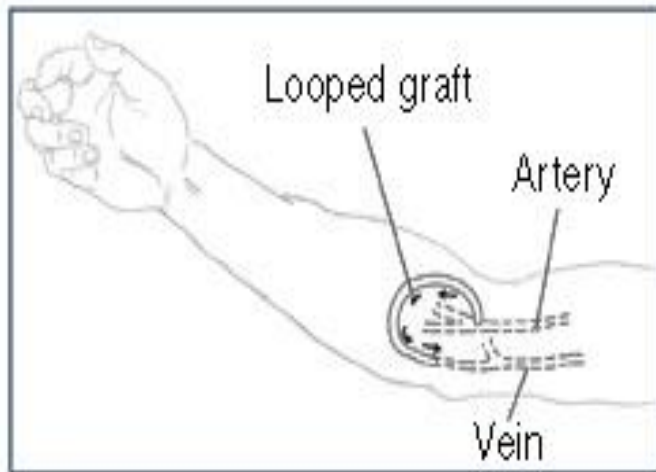
Ball, L.K. (2005) Improving Arteriovenous Cannulation Skills, Nephrology Nursing Journal, 32 (6), 1-8 (This is a seminal article in the development of dialysis access cannulation)

What is an arteriovenous fistula?



An AVF requires advance planning because a fistula takes a while after surgery to develop. A properly formed fistula is less likely than other kinds of vascular access to form clots or become infected. Also, properly formed fistulas tend to last many years, longer than any other kind of vascular access. A surgeon creates an AVF by connecting an artery directly to a vein, frequently in the forearm. Connecting the artery to the vein causes more blood to flow into the vein. As a result, the vein grows larger and stronger, making repeated needle insertions for haemodialysis treatments easier.

What is an arteriovenous graft?



If you have small veins that won't develop properly into a fistula, you can get a vascular access that connects an artery to a vein using a synthetic tube, or graft, implanted under the skin. The graft (AVG) becomes an artificial vein that can be used repeatedly for needle placement and blood access during haemodialysis. A graft doesn't need to develop as a fistula does, so it can be used sooner after placement, often within 2 or 3 weeks. Compared with properly formed fistulas, grafts tend to

have more problems with clotting and infection and need replacement sooner. However, a well-cared-for graft can last several years.



LEARNING ACTIVITY

Take the opportunity to speak to patients who have different forms of access.

What are different considerations of care for each of them? _____

Discuss with your clinical mentor some of the differences _____

9. Management of clinical waste

Correct management of post dialysis waste products is central to ensuring risk of blood and fluid spills are minimised. Identify the guidelines and procedures for your area and follow them correctly.

If you are undertaking a clinical placement longer than 2 you will be exposed to more of the procedures that are required to successfully carry out a dialysis treatment. In addition to the above activities the following topics are envisaged as being able to be added on.

10. Access of Permacath and commencing Haemodialysis: Under direct supervision

Central Venous Dialysis Catheters (CVDC) should only be accessed under strict aseptic techniques to avoid related complications such as infection, blood loss and air embolism. There are different access techniques depending on clinical need. If dialysis bungs are being replaced, a 3 minute hand scrub should be performed prior to applying sterile procedures. Staff are required to ensure the appropriate PPE is applied, which includes goggles/face shield, gown and sterile gloves. The patient should be placed in the supine position and advised to either wear a mask or have his/her head turned to the side away from the CVDC to minimise any chance of contamination.

Further information please refer to *Commencement of Haemodialysis using Central Venous Dialysis Catheters (Permcath/Vascath) with a Luer Access Device HNELHD CP 16_30*

11. Fluid assessment of patient

With your clinical mentor, it is hoped that during your time you will take the opportunity to conduct basic fluid assessments on dialysis patients. Using additional resources to develop your A&P knowledge and assessment skills, it is a worthwhile skill to practice and develop as the clinical decision making required for dialysis patients can be transferred across to other clinical areas. Included in this is an understanding of the clinical signs of hypotensive shock, fluid overload leading to potential pulmonary oedema and a knowledge of the effects of fluid overload on the cardio-pulmonary system including heart failure, etc.

12. Assessment of Arterio-Venous Fistula/Graft

You can perform the assessment required for the patient's access prior to the clinical staff performing the cannulation. Assessment of the access is a crucial skill that is required to be performed each time the patient attends for dialysis. Surveillance of the access can minimise and prevent potential complications.



READING

Manuel, W. (2009). Clinical assessment of vascular access- an overview.

Journal of Renal Nursing, Vol 1, No 3, 123-126. September.

This article is available online via CIAP

13. Practice cannulation

Clinically, you are not able to attend to cannulation of an AVF/AVG but can practice the techniques using a cannulation practice arm if available. Good technique is required to ensure asepsis is maintained when preparing the sterile field, needles and syringes. Consult *Cannulation of an Arteriovenous Fistula/Graft GandP 15_09* on the intranet via the guideline and procedure directory for knowledge of the correct procedure.

14. Haemodialysis Self Direct Learning Package

If you wish, the available package for haemodialysis can be attempted (excluding assessment of skill) to give a greater depth of knowledge for the role of dialysis in patient management

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Appendix 1 Key Nephrology Nursing Staff – John Hunter Hospital

Position	Ward / Location	Preferred Contact Number
Nurse Manager	Community Dialysis Services	Ext 48810
NUM 3	Nephrology & Dialysis - Ward K1	Ext 14616
Team Leader	Ward K1 Dialysis	Ext 14338
NUM1 (Clinical)	Raymond Terrace Dialysis Unit	49830861
NUM 1 (Clinical) Mon - Tues	Maitland Dialysis Unit	52606
ANUM (Clinical) Wed - Fri	Maitland Dialysis Unit	52606
Clinical Nurse Consultant Nephrology Mon - Tues	Nephrology Department Office at Wansey	Speed Dial 66513 (0402 850453)
Acting Clinical Nurse Consultant Nephrology Wed - Fri	Nephrology Department	0428 196886
Nurse Practitioner Nephrology	Nephrology Department	0411 779 490
NUM1 (Clinical)	Wansey Satellite Unit	Ext 48802
CNS & Team Leader	Wansey Training Unit	Ext 48803
Renal Options Coordinator	Wansey	Ext 48813
Renal Pharmacist	JHH	Page 5684
Dialysis Patient Flow Coordinator	JHH	Speed Dial 67971
Clinical Trials Coordinator	JHH	Ext 14332
Transplant Recipient Coordinator	JHH	14341 Page 5266
Transplant Donor Coordinator	JHH	55479 Page 6372

Appendix 2 Key Nephrology Nursing Staff – New England

Position	Ward / Location	Preferred Contact Number
Nurse Manager	Community & Satellite Dialysis Services	Ext 77048
Dialysis Nurse Educator	Peel, Mehi & Tablelands Sectors	Ext 77106
NUM	Tamworth Renal Unit	Ext 77047
CNUM	Armidale Satellite Unit	Ext 69912
CNUM	Moree Satellite Unit	Ext 70077
NUM	Inverell Satellite Unit & Medical Ward	Ext 19592
Clinical Nurse Consultant	Renal Outreach Peel, Mehi & Tablelands Sectors	Ext 77042
Renal Options Coordinator	Peel, Mehi & Tablelands sector	Ext 77043

Appendix 3 Key Nephrology Nursing Staff – Manning

Position	Ward / Location	Preferred Contact Number
Acting Nurse Unit Manager	Manning Renal Service	65929884
Nurse Practitioner	Manning Renal Service	65921098
Clinical Nurse Consultant	Manning Renal Service	65929986
Clinical Nurse Specialist	Manning Renal Service	65929983
Social Worker	Manning Renal Service	Page Number 9725
Dietitian	Manning Renal Service	Page Number 9806

Learning Package: Reflection on Learning

This document guides your reflection on the extent to which the package meets your professional development needs, and how you plan to apply your learning into practice. This tool is not part of the assessment process, and has been included as a document that you may wish to include in your professional portfolio. Time taken to complete learning package: _____

What was your purpose in completing this learning package?

Did you achieve this by completing the learning package?

Reflecting on the content, what key learning have you obtained?

What learning will you apply to your practice immediately? How will you do this?

What learning needs have you identified as a result of completing this learning package?

How do you plan to address these needs?

Signature: _____ Date: _____

Learning Package Evaluation Form

Your feedback regarding this learning package is important to ensure the package meets your learning needs. Please take 5 minutes to answer the following questions to facilitate any change required for future learning packages.

- | | | |
|--|-----|----|
| 1. The learning outcomes of the learning package were clearly identified | Yes | No |
| 2. The learning outcomes of the package were appropriate | Yes | No |
| 3. The content provided enabled me to meet the learning outcomes? | Yes | No |
| 4. The activities motivated my interest in the topic | Yes | No |
| 5. The activities and workbook questions supported my understanding of the topic | Yes | No |
| 6. The package was presented in a logical manner | Yes | No |
| 7. The assessment process related to this package was clearly outlined (if applicable) | Yes | No |
| 8. My most relevant learning outcomes from this package were: _____

_____ | | |
| 9. The key learning points from this package I can immediately apply to practice were:

_____ | | |
| 10. The least relevant component(s) of this package were: _____

_____ | | |
| 11. Some suggestions I would like made to improve the package would be: _____

_____ | | |

Thank you for your time completing the evaluation

Please return to:

The relevant CNE/NE/Renal Options Co-ordinator/CNC within your area.