

# Learning Environment



Renal Dialysis RPH

# Learner Booklet

## Welcome

We would like to warmly welcome you to Lancashire Teaching Hospitals NHS Foundation Trust (LTHTR). Incorporated on the 1st of April 2005, LTHTR was the first trust in the county to be awarded “Teaching Hospitals” status.

We have created this pack as a useful resource to help you to settle in with us. The purpose of this booklet is to provide you with information to help you on your learning environment.

## About LTHTR

### We have three equally important strategic aims:

- To provide outstanding and sustainable healthcare to our local communities
- To offer a range of high-quality specialist services to patients in Lancashire and South Cumbria
- To drive health innovation through world class education, training and research

We provide a range of Hospital based health services for adults and children and cover a range of specialities. These include cancer services such as radiotherapy, drug therapies and surgery, disablement services such as artificial limbs and wheelchair provision. Other specialities include vascular, major trauma, renal, neurosurgery and neurology including brain surgery and nervous system diseases.

### Our five core values:

- Being caring and compassionate
- Recognising individuality
- Seeking to involve
- Building team spirit
- Taking personal responsibility



We deliver care and treatment from three main facilities:

- Royal Preston Hospital
- Chorley and South Ribble Hospital
- Specialist Mobility and Rehabilitation Centre, Preston

In relation to car parking, please refer to your Induction to the Trust, for information regarding car parking. Additional information can be found on our Intranet page.

<https://legacy-intranet.lthtr.nhs.uk/car-parking-documents>



## Learning Environment

We would like to welcome you to your learning environment.

The Renal directorate of Lancashire and South Cumbria provide a specialist service to a population of 1.8 million people. There are 13712 people who are known to the service with 498 patients requiring dialysis in centre, 106 patients dialysing at home or training, 683 patients under the care of the kidney choices team and 791 transplant patients (Figures correct, May 2022).

The LTHTr renal directorate (specialist services) consists of:

- Acute Dialysis bay
- Chorley Dialysis Satellite Haemodialysis Unit
- Home Therapy Team
- Nephrology Ward (Ward 25) comprising of 23 beds and a treatment room for day cases
- Renal Consultants and medical team
- Renal Specialist Nurses
- Royal Preston Hospital Haemodialysis Unit (hub unit)
- West Moorland Renal Centre (Kendal)

There are 4 other satellite renal centres which are run by 2 private companies called Diaverum and Fresenius Medical Care. The centres provide haemodialysis and renal outpatient clinics to enable patients to be seen closer to their homes, ideally within 30 minutes travel time.

- Clifton Haemodialysis unit (Blackpool)
- Furness Renal Centre (Barrow in Furness)
- John Sagar Renal Centre (Burnley)
- Laurie Solomon Renal Centre (Blackburn)

## The Kidney and it's Functions

The kidney's main functions:

1. The production of erythropoietin (epo)
2. Active in production of vitamin D
3. Active in acid base homeostasis
4. Conserve water, salts and electrolytes
5. Separate urea, mineral salts, toxins and other waste products from the blood

Renal function is assessed in accordance with the Estimated Glomerular Filtration Rate (eGFR) which is divided into five stages. When the eGFR is less than 15mls/min/1.73m<sup>2</sup> then the patient is considered to have Established Renal Failure and will require conservative management, transplant or renal replacement therapy.

Common causes of chronic renal failure are:

Cardiovascular Disease/Hypertension

Diabetes

Certain ethnic backgrounds including South Asian, Afro Caribbean and Chinese (Kidney Care Services 2008).

Less common causes of chronic renal failure are:

Autoimmune diseases

Multiple Myeloma

Genetic Abnormalities

Trauma

Common clinical features of renal failure can include:

Nausea and vomiting (which can result in weight loss)

Lethargy

Pruritus

Oedema (both peripheral and pulmonary)

Shortness of breath

Reduced urine output

Hypertension

Headaches

(Levy, Morgan and Brown 2009)

## Haemodialysis Units

The hub haemodialysis unit at RPH and the satellite units provide renal replacement treatment to patients who require haemodialysis. Patients are allocated dialysis slots comprising of Monday, Wednesday, Friday or Tuesday, Thursday, Saturday depending on availability at the time they need to commence dialysis, their work pattern and family commitments. Patients are generally prescribed their dialysis 4 hours per session, 3 sessions per week but this can vary depending on patient's blood results and needs. The sessions allocated may be a morning, afternoon or twilight shift, depending on what each unit can offer.

The haemodialysis unit co-ordinates the dialysis slots and where patients can attend for their treatment by liaising with the satellite units for their availability. The hub is where the more problematic patients dialyse particularly if they are acutely unwell or have vascular access difficulties. Patients who need to attend appointments in other areas of the hospital may attend for dialysis after their appointments. The hub dialyses a mixture of regular outpatients and any inpatients who require dialysis treatment, which includes transferring patients in from surrounding hospitals. The hub also has an on-call service which can be accessed if a patient presents in the emergency department acutely unwell and needs dialysis or if is already an in-patient.

The haemodialysis units can also provide respite care for patients who are on home haemodialysis if they or their carer are no longer able to dialyse at home. They can also provide holiday dialysis, subject to slot availability, to dialysis patients from the UK and abroad and can help patients to arrange their holiday dialysis.

Patients who attend the satellite units are generally stable on dialysis and able to enter and leave the units independently due to the access to the units and medical cover available. The satellite units are found in local communities and may be located within a local hospital and are more convenient for patients who live in the local areas. The aim when allocating slots to patients is to place them at a unit within 30 minutes of their home address.

The hub also provides staff for the acute dialysis bay situated on ward 25. This area has 3 beds for patients on ward 25 who require dialysis treatment. It can also be used for inpatients who are not stable enough to attend the hub unit to reduce their movement though the hospital and there is more medical cover available on the ward.

Some of the things you may experience on the haemodialysis units:

### **Haemodialysis**

Haemodialysis filtrates the blood through a semi-permeable membrane; the toxins and any unwanted fluid are removed and then carried away by the dialysate fluid. The two main processes used are diffusion and ultrafiltration. Diffusion is the movement of toxins from an area of high concentration to a lower one. The toxins are removed from the blood through the dialysis membrane to the dialysis fluid. Ultrafiltration is the process by which excess fluid is removed from the body. A hydrostatic pressure is created; this means the fluid pressure is greater on one side of the dialysis membrane than the other. This causes the fluid to cross the membrane from the area of high pressure to the area of low pressure (Harris 2012).

### **Arteriovenous Fistula**

The Gold Standard for vascular access is an AV fistula as it provides the best start to dialysis and should be planned in advance if possible. This is a permanent access which is created by surgeons involving the joining of an artery and a vein and whenever possible they try to use the patient's non-dominant arm as first choice. The sites where an arterio-venous fistula can be formed are:

- The wrist – radial artery connected to the cephalic vein
- The elbow – brachial artery to the cephalic vein
- The upper arm – brachial artery to the basilica vein

The fistula should be assessed at each dialysis session before cannulating to ensure it working and safe to use.

### **Tunnelled Line**

Some patients are unable to have a fistula created or may require an urgent start to their dialysis. In this case they will have a tunnelled line or a temporary central venous catheter (CVC) inserted into the femoral, jugular or subclavian vein. These temporary CVC's pose a high risk of infection and should be used for no longer than 5 days. Tunnelled lines must be accessed using strict aseptic non touch technique (ANTT). The exit site should be assessed at each dialysis session through the clear dressing to check for signs of infection. The dressing is changed and exit site cleaned once a week.

### **Monthly Bloods**

Blood samples are obtained from dialysis patients once a month in line with Kidney Disease Outcome Quality Initiative (KDOQI) guidelines. The blood results show how well a patient is dialysing and if their dialysis prescription or medications need to be modified. The results are monitored by various members of the MDT and by the patients named nurse.

### **Transplant Bloods**

Transplant blood tests and transplant crossmatch samples should be sent on a Monday, Tuesday or Wednesday. Transplant crossmatch samples should be sent regardless of being suspended on the transplant waiting list. The transplant team need to be informed if a patient is unwell, admitted to hospital, had any recent infections, is pregnant, goes on holiday or has a blood transfusion.

### **Haemodialysis Complications**

Patients can be prone to hypotension; the process of fluid removal can cause this. To prevent the patient developing hypotension fluid removal should be consistent throughout dialysis and ultrafiltration should be done in a controlled manner. If large amounts of fluid need to be removed, ideally treatment should be prolonged in order to accommodate this situation. A patient's weight should also be reviewed on a regular basis in order to ensure that they have not lost body fat and that fluid removal is adjusted accordingly. To correct hypotension in the haemodialysis patient, they should be placed in the Trendelenburg position and a small bolus of fluid given, once the patient has stabilised then dialysis can be resumed, with fluid being removed at a slower rate and the patient monitored.

Associated with hypotension, patients can start to experience cramps. These can be very painful and can be caused by large amounts of fluid removal. As it can be fluid related the same treatment given for hypotension can be initiated. Patients can also be prescribed quinine in order to alleviate the discomfort. Nausea and vomiting can occur with hypotension and disequilibrium. If these two issues have been dealt with and the patient still feels nauseous then the use of anti-emetics is recommended. As dialysis deals with the balance of electrolytes, then it can be expected that some patients will suffer from electrolyte imbalance including low or raised sodium, calcium and potassium. This can be monitored through regular electrolyte checks and adjustment of the dialysate fluid as needed. Disequilibrium is a combination of systemic and neurological symptoms, which occur during or after dialysis. It is most common in patients who are severely uraemic. In mild cases patients may feel nauseous and restless and experience headaches, whilst in more severe cases they can have hypertension, seizures and even become unconscious. In most cases dialysis is reduced or even stopped until the patient has stabilised. Finally, patients



can bleed as a result of dialysis. As anticoagulation medication is used to prevent the risk of thrombosis, this can increase their risk of bleeding.

### Common Renal Drugs

There are common medications used in the renal directorate:

- Anti-Hypertensives
- Anti-glycaemic medication
- Phosphate binders
- Calcium supplements
- Sodium bicarbonate
- Anticoagulants
- Erythropoietin
- Iron (oral and intravenous)

Some medications are classed as nephrotoxic drugs; this means that they are toxic to the kidneys; these drugs can cause Acute Kidney injury or long-term kidney damage. Some of these drugs include:

- NSAIDs (nonsteroidal anti-inflammatory drug) like ibuprofen
- Opioids such as morphine sulphate
- Pethidine
- Losartan

### Uniform

Please refer to the uniform policy available on the intranet.

### Sickness

Learners should follow the university protocol and also inform their placement area. You will also need to email [learner.absences@lthtr.nhs.uk](mailto:learner.absences@lthtr.nhs.uk)



## Induction

The Local Induction process will take place throughout the first week of your placement.

This will comprise of:

- Trust and department orientation, including housekeeping information
- Location of emergency equipment
- IT access
- Reading & acknowledgement of Mandatory Trust policies such as Health & Safety, Fire Safety, Infection Control, Information Governance, Staff Code of Conduct, Social Networking and Dress Code policies.
- Adult Basic Life Support training if applicable
- Trust Moving & Handling Training if applicable
- COVID-related policies & procedure
- Orientation
- Professional voice: - freedom to speak up, datix, chain of command, open door policy
- An awareness of our Educational Governance Team- evaluation and importance of feedback
- Inter-professional Learning Sessions
- Practice Assessment Record and Evaluation (PARE) training, if applicable
- Collaborative Learning in Practice (CLiP™), if applicable
- How the role of Practice Development Facilitator can support you, where applicable



## What to bring on your first day

- Uniform: All other items in the dress code policy must be adhered to <https://legacy-intranet.lthtr.nhs.uk/search?term=uniform+policy>
- A smallish bag which would fit into a small locker.
- You may wish to bring a packed lunch and a drink on your first day.

## Inter-professional Learning Sessions and eLearning Resources

At our Trust, our Education Team facilitates a yearly programme of Inter-professional Learning (IPL) sessions. This programme consists of various teaching sessions, delivered by our Specialist Teams, to support and enhance our learners and trainees' learning experience with us.

Inter-professional learning is an important part of your development and allows you to build professional relationships and communication skills with the wider multi-disciplinary teams. Our IPL sessions are valuable in supporting you to stretch your knowledge and experiences to enhance your clinical practice. They also help bridge the gap between theory and practice, allowing you to hold a deeper understanding of the topics discussed. Our sessions are open for all learners and trainees on placement at our Trust to attend and these learning opportunities are an extension to your learning environment; therefore, these hours need to be recorded on your timesheets. We encourage our staff to facilitate enabling a learner/trainee to attend these sessions.

**Please note: You must inform your learning environment prior to attending a session.** These IPL sessions need to be discussed in a timely manner with your learning environment.

You are required to complete a reflection on each of your IPL sessions, as well as documenting on your HEI documentation what you have learnt and how this relates to your current placement.

You can book onto our IPL Sessions by accessing this link <https://elearning.lthtr.nhs.uk/login/index.php> and searching for 'IPL'.

You can access our policies and procedures via our Intranet page, which will help expand and stretch your knowledge.

## Support with evidencing your learning outcomes or proficiencies

We encourage you to use the Trust learning logs to collate and evidence your skills, knowledge and abilities achieved. You can then present your completed learning logs to your Practice Assessor/Educator during your assessment meetings. Any staff member who is involved in coaching you can complete your learning log feedback.

You can request time during your placement hours to complete these and request feedback prior to the shift ending. To obtain a copy of our learning logs, please visit our Health Academy Webpage on the link below, where you will see a copy of our CLiP™ Learning Log available for you to download, on the right hand side - <https://healthacademy.lancsteachinghospitals.nhs.uk/support/clinical-placement-support/collaborative-learning-in-practice-clip/>

## Chain of Command

Keeping patients safe, providing the best care that we can and learning in an environment where you feel safe and valued is important to us. Speaking up about any concern you have on your learning environment is also important. In fact, it's vital because it will help us to keep improving our services for all patients.

There may be occasions where we witness, experience or are asked to do something that causes us concern. Often, these concerns can be easily resolved, but sometimes it can be difficult to know what to do.

Our Clinical Placement Support Team are available Monday – Friday, 8.00am – 4.00pm should you need to contact them in relation to any concerns regarding your learning environment. If your concern relates to patient safety and/or your concerns are outside of these hours, please follow the chain of command in your learning environment and speak with the person in charge.

Please visit our Freedom to Speak Up page on the Intranet for more details.



## We value your feedback

Our Trust values your feedback. To continuously improve, we offer opportunities for our learners and trainees to provide feedback regarding both your learner experience and your learning environment. We would encourage you to kindly complete your end of placement evaluation, within your clinical hours.

We will keep you updated with the improvements that we make based on the feedback you provide us with.

## Learning Environment Improvement Forum

Our Learning Environment Improvement Forum began in November 2021, with key stakeholders attending; Learners, Trainees, Clinical Staff, Education Leads and our Nursing Directorate. Monthly meetings are held to share new and innovative ideas as to how we can collaboratively enhance our learning environments, to support both learners, trainees and staff.

All attendees at the Learning Environment Improvement Forums contribute their suggestions and guidance on our projects. Collaboratively, exciting improvements are implemented to enhance our learning environments.

Innovative changes made by our Learning Environment Improvement Forum, within Academic Year 2021-2022;

- NEW Learner Boards designed and placed on our learning environments
- Learner booklets made available on our Health Academy webpage to prepare our learners and trainees for their clinical placements, as suggested by our learners and trainees
- PARE and CLiP™ training embedded into our Learner and Trainee Inductions
- Quick Reference Guide designed and created to welcome our learners and trainees to the Trust and prepare them for their clinical placements

We welcome any of our staff, learners and trainees at the Trust to attend our Learner Environment Improvement Forums, to contribute your ideas and suggestions for our new and innovative projects. You can join via the E-Learning Portal - <https://elearning.lthtr.nhs.uk> and going to Courses, then selecting the tab 'Inter Professional Learning', where you will see our forum listed.