



School of Medicine

**Nephrology clinical
undergraduate training
- *Tallaght University Hospital***

All care is taken to ensure that the information in this handbook is correct at the time of going to print.

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3rd Medical Year

SPECIALTY: Nephrology - www.tcd.ie/medicine/thkc/education/
CONSULTANT: Prof G. Mellotte (Team B), Prof C Wall (Team A), Prof P Lavin (Team A), Dr B Griffin (Team B), Prof M Little (Team A), Dr Frank Ward (Team A), Dr Donal Sexton (Team B)
HOSPITAL: Trinity Health Kidney Centre, Tallaght Hospital
YEAR OF COURSE: 3

OBJECTIVES OF ATTACHMENT

During this attachment, a student is expected to understand:

- The clinical presentation of renal disease, e.g., proteinuria, hypertension, haematuria and uraemia.
- Normal regulation of body water and sodium by the RAAS and ADH and how abnormalities give rise to changes in water and sodium homeostasis
- Normal values of electrolytes in blood and urine and the clinical sequelae of a derangement in these.
- A basic understanding of the following conditions:
 - a. Acute kidney injury (pre-renal, post renal or intrinsic renal)
 - b. Chronic kidney disease, focusing on diabetic nephropathy
 - c. Glomerulonephritis: nephrotic / nephritic syndrome
 - d. Myeloma and the kidney
- The management of acute and chronic renal failure, including preparation for dialysis.
- Impact of renal failure on drug handling.

Be able to:

- Take a full and appropriate current and past medical history.
- Construct a synopsis or problem list based on the clinical assessment of a patient
- Discuss the range of clinical investigations available and understand how they may be used to inform the differential diagnosis.
- Palpate a renal transplant and native kidney

Ten clinical pearls you should endeavour to do when attached the nephrology service:	<ol style="list-style-type: none">1. Feel and auscultate an arteriovenous fistula2. Observe use of a tunnelled haemodialysis catheter3. Palpate a transplant kidney4. Assess the volume status of at least 5 patients5. Perform a urinalysis6. Witness a patient being attached to a haemodialysis machine7. Witness a peritoneal dialysis exchange8. Assess and present a patient presenting with acute kidney injury9. Meet with the anaemia nurse to get an introduction to erythropoietin prescribing10. Present a case at Monday teaching rounds
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Teaching structure: 3rd Medical year clinical medicine attachments

Early clinical training is delivered by means of the clinical skills lab and rotations through various medical and surgical specialties for a period of 4 weeks each. In general, 3-4 students will be

attached to the Nephrology service at any one time. Your immediate point of contact and mentor during the attachment will be the **Osborne ward registrar**, who manages the main Nephrology ward on Level 3 with an intern. There are two Nephrology consultants on service each week ("Team A" and "Team B"); these doctors will have overall responsibility for your teaching during the attachment. You will also be expected to present one such case each week at the **Thursday lunchtime acid base / electrolyte / kidney disease teaching rounds (see below)**. In addition, you will have the opportunity to attend a range of nephrology outpatient clinics and the haemodialysis unit.

Management and Professional Behaviour.

The student must always:

1. Be well dressed, punctual.
2. Be alert to patient needs and sensitivities.
3. Be able to establish a good working relationship with team members and peers.
4. Demonstrate resourcefulness and flexibility in work practice.
5. Wear a mask in all ward and public areas

At the end of this attachment the assessment format will include:-

- Discussion of abnormal blood and / or urine laboratory reports.
- Presentation and discussion of a case currently being treated in the unit.
- An understanding of the principles of dialysis

Acid base / electrolyte / kidney disease teaching rounds

Location	Renal nurses' office, dialysis unit, each Thursday at 1pm for 1 hour
Attendees	All 3rd meds attached to renal, any 5th med attached to renal, interns and SHOs of renal firm. In view of the requirement for social distancing a maximum of 4 masked people can attend in person. Virtual attendance will be possible via MS Teams.
NCHD Coordinator	Osborne or Consult registrar
Consultant Coordinator	Rotates, usually the consultant on call

1-2 cases to be prepared weekly, 1 covering an acid base or electrolyte disorder referred to the renal team (consult service or inpatient service) and 1 dealing with a kidney disorder (acute kidney injury / glomerular disease / etc). If there is also a final medical year student attached to the service, they should share the case presentations. Cases are to be chosen in discussion with the consult, Osborne or GIM registrar no later than the previous Friday afternoon. On the first Monday of the attachment, cases will need to be prepared on Monday morning.

The presentation should include a relevant brief history and results of preliminary investigations. The case should be presented as a diagnostic challenge with information withheld to allow for discussion around potential diagnosis / differentials / further diagnostics and interpretation of same. You will need an up to date medication list for the patient including drugs taken prior to admission / OTCs and drugs discontinued. This list should not be presented until the facilitator questions you regarding drug therapy. One person should present each case and the facilitator will review the data and bring the group through the diagnostic process by asking for their input as well as requesting results of further investigations / medications etc. It is therefore essential that not all results are presented at the outset, rather a summary of the problem.

It is not necessary to present these cases electronically – but a typed synopsis of the case to be discussed will be useful for the group.

Case example 1

You are asked to see a 51 year old man with a serum potassium of 6.7mmol/l and sodium of 129mmol/l. He has newly diagnosed inoperable pancreatic neuroendocrine tumour. His creatinine has risen from 60 to 160 over the last 10 days. Can you please see and advise on the likely cause of the above as well as recommend appropriate treatment?

Case example 2

You are consulted on a 72 year old woman with worsening leg swelling for the last 3 weeks. The initial working diagnosis was of CCF but her ECHO is normal and BNP is <500. She has a creatinine of 110umol/l and urine dip reveals 2+ protein. She is anaemic with a Hb of 9.7g/dl. Can you please see and advise?

Proposed attachment timetable

IMPORTANT CONTACT NUMBERS

Osborne registrar (primary point of contact): 7068

GIM registrar: 3685

GIM SHO: 3687

Consult registrar: 3689

Haemodialysis registrar (primary point of contact): 7041

Dr Arwa Shuhaiber (Haemodialysis staff grade): arwa@beaconrenal.ie

We suggest that you establish a WhatsApp group or similar with the Osborne or Dialysis team to facilitate communication.

You will be split into three main sections: Osborne ward, Outpatients and Dialysis Unit as described in this table:

	Student A	Student B	Student C	Student D
Week 1	Osborne A	Osborne B	HD	OPD
Week 2	Osborne B	Osborne A	OPD	HD
Week 3	HD	OPD	Osborne A	Osborne B
Week 4	OPD	HD	Osborne B	Osborne A

Tutorials

The goal is to deliver 4 system-based tutorials per week to all students. Although the student based in the dialysis unit should not routinely attend Osborne ward, they are permitted to attend tutorials under the supervision of the teaching doctor. These tutorials will be delivered by both consultants and NCHDs. The timings of these tutorials will vary according to the tasks and timetables of the doctors. There will necessarily be flexibility and proactive communication required around this. A maximum of 3 students are allowed to attend a tutorial to allow for social distancing.

Renal unit calendar (Osborne attachment)

	Morning (before 12 noon)	Afternoon (after 12 noon)
Monday	Ward round (nephrology)	Ward round medicine / Consult Round
Tuesday	Nephrology Clinic	1-2pm: Nephrology Seminar 2-3pm: Nephrology MDT / Monthly dialysis / home therapies meetings 3pm: Ward rounds / consults
Wednesday	Transplant Clinic / Obstetric Nephrology Clinic	Ward Round / Consult round
Thursday	Clinical Meeting	1pm. Acid base / electrolyte / kidney disease teaching rounds (Renal Anaemia Nurse Office & MS Teams) Ward Round / Consult round 3pm: Team A tutorial (Dr Ward)
Friday	Grand Rounds Vasculitis and Nephrology Clinic	Ward Round / Consult round
Sat/Sun	On call – ward round / Consult round	On call – ward round / Consult round

Renal unit calendar (Hemodialysis attachment)

	Morning (before 12 noon)	Afternoon (after 12 noon)
Monday	Dialysis patient review	Dialysis patient review
Tuesday	Nephrology Clinic	1-2pm: Nephrology Seminar 2-3pm: Nephrology MDT / Monthly dialysis / home therapies meetings
Wednesday	Transplant Clinic / Obstetric Nephrology Clinic Home Therapies Clinic	Dialysis patient review
Thursday	Clinical Meeting	1pm. Acid base / electrolyte / kidney disease teaching rounds (Renal Anaemia Nurse Office & MS Teams) Dialysis patient review 3pm: Team A tutorial (Dr Ward)
Friday	Grand Rounds Vasculitis and Nephrology Clinic	Dialysis patient review

Teaching, attendance/tasks during rotation

- Present to Intern
- Present to Registrar
- Present at Thursday teaching meeting (Renal nurses office, dialysis unit)
- Present at Tuesday lunchtime MDT meeting (Osborne ward – virtual during covid restrictions)
- Observe 1 Wednesday Clinic
- Observe 1 Friday Clinic
- Attend On Call with Team

Find out from the GIM registrar when the team is on call and organise to do a few hours with the team in the emergency department.

Reading List and Websites

Vital Nephrology. Stein A, Wild J, Cook P. Class Publishing 2004. ISBN 1 85959 102 7

Comprehensive Clinical Nephrology, 2nd edition. ISBN 0723432589 · Mosby · Published July 2003

Primer on Kidney Diseases. 3rd Edition. Academic Press, 2001, ISBN 0122991001

Clinical Physiology of Acid-Base and Electrolyte Disorders, 5th edition, McGraw-Hill, ISBN 0071346821

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

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