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THIS IS THE FOURTH EDITION OF LEARNING CURVE, A BULLETIN INTENDED TO UPDATE AND INFORM RENAL SPECIALISTS

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USING PERITONEAL DIALYSIS IN PATIENTS PRESENTING ACUTELY - THREE CASE STUDIES

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Case Study 1

On 28 October 2003 an 18-year-old woman was admitted to the Wessex Renal and Transplant unit (WTRU) with severe oligo-anuric acute renal failure. She had presented 24 hours earlier to her local District General Hospital with headaches and nausea. Her initial blood tests were dramatic (see inset box).

Subsequent investigation and evaluation showed that her clinical state and biochemical abnormalities were the result of the end stage renal failure of unknown aetiology (USS-small, shrunken hyper-reflective kidneys).

At the time of admission she was in need of urgent renal replacement therapy due to fluid overload manifested by severe hypertension and swelling, hyperkalaemia resistant to medical management, acidosis, symptomatic uraemia complicated by uraemic encephalopathy and myoclonus. In addition she was in



Gerry Endall

need of blood transfusion, which could not be administered due to fluid overload and hyperkalaemia.

After prolonged and detailed discussion with the patient and relatives (who had some background medical education) a decision was made

Urea	59.2 mmol/l	Hb	4.8 g/dl
Creatinine	1529 µmol/l	WBC	14.0
K+	7.2 mmol/l	Plt	189
CO ₂	15.2 mmol/l	Ca+	1.54mmol/l
Phosphate	2.96 mmol/l	Albumin	38 g/l

to treat the young woman with peritoneal dialysis. The medical team did not influence the decision making process but simply provided the patient and relatives with information on risks and benefits of different dialysis modalities. The young patient felt strongly in favour of PD.

Medical insertion of a Tenckhoff catheter was undertaken under sedation and local anaesthetic, with antibiotic cover and prior bowel preparation, as per protocol of the WRTU.

The advantages of the medical insertion were a small vertical incision of 1cm, with reduced risk of leaks and avoidance of the general anaesthetic that was judged to be risky due to multiple biochemical and haematological abnormalities and severe uncontrolled hypertension.

The Tenckhoff catheter was put in use immediately after insertion. As the patient experienced pain on draining in and out, standard PD solution was changed to biocompatible PD solution with the complete resolution in symptoms within hours. Initial dwell volumes were 1000ml with the dwell time of 1 hour.

Within 24 hours negative balance of 2.2 litres was achieved which allowed blood transfusion. She obtained the symptomatic relief in terms of nausea and vomiting rapidly as well and was able to recommence her normal diet.

Three days post catheter insertion biochemical parameters were normalised enough to allow reduction of the intensity of PD to nocturnal APD while leaving the day time free for dialysis education and PD training.

The young woman was discharged home 2 weeks after admission on APD. The dwell volumes were gradually increased to 2 litres and a daytime exchange was added later. She remained well on PD until February 2004 when she received the cadaveric renal transplant. Throughout her time on PD she used the same Tenckhoff catheter without any mechanical or infective complications, and did not require further hospital admissions.

This case clearly illustrates the use of peritoneal dialysis in the acute setting, even in the presence of extreme biochemical and haemodynamic disturbances. Its implementation does require dedicated and highly trained team. It also illustrates the need to discuss the dialysis modalities and provide the patients with information necessary to make an informed choice.

Case study 2

A 59 year old man with long history of CRF due to ciclosporin nephrotoxicity was admitted to WRTU with severe bilateral pneumonia that precipitated the acute deterioration in his renal function. He was immunocompromised, having received the cardiac transplant 15 years previously for which he was taking MMF (mycophenolate mofetil) and steroids. Within days of treatment he became oligo-anuric and was in need of renal replacement therapy. After long discussion with the patient, a decision was made to introduce peritoneal dialysis. PD was thought to be a more suitable option due to poor cardiac function and haemodynamic instability.

Medical insertion of a Tenckhoff catheter was performed under sedation and local anaesthetic, after prior bowel preparation and with antibiotic cover. The patient tolerated the procedure well. After the rest period of 24 hours, overnight APD was commenced using standard PD solution with dwell volumes of 1000ml and dwell time of 1 hour as per protocol. The patient tolerated the procedure well and rapidly obtained significant relief from uraemic symptoms. His fluid balance was stabilised which helped his respiratory symptoms.

With the treatment of infection, he regained some urinary output but remained dialysis dependent. After his clinical state improved, the patient received the training and started CAPD during the same admission. The dwell volume was increased subsequently to 2 litres. Early complications such as leaks, Tenckhoff malfunction and infection were not seen. The original Tenckhoff catheter was removed 9 months later due to PD-related peritonitis, but the patient remained on PD for 30 months until his death earlier this year due to malignancy.

This case illustrates usefulness of acute peritoneal dialysis in patients with severe heart disease and haemodynamic instability. We have successfully used it in the similar settings in patients with recent myocardial infarction, severe CCF and in other heart transplant recipients.

In most of these patients the Tenckhoff catheter was inserted medically and we did not see the problems of leakage or early infections. Dialysis modality was not changed after the initial decision.

Use of peritoneal dialysis in acute setting requires highly skilled team available around the clock. Frequent reviews and adjustments of dialysis prescriptions are likely to be required. If the necessary expertise is available, acute peritoneal dialysis is safe and effective modality for renal replacement therapy.

Case study 3

Mrs X was 47 years of age, her height was 1.62m and she weighed in at 183kg. She was a diabetic controlled on tablet and diet. She had applied for funding to have surgery to reduce her weight. Finally, funding was secured and she was admitted to a local hospital, where the procedure of bariatric surgery, Roux en y gastric bypass and cholecystectomy was performed.

Post-surgery the patient was doing well; observations were stable and she was passing urine. But the patient felt very thirsty and looked dehydrated. Her blood pressure reduced to 65/40 and she became bradycardic with a pulse rate of 40-60 bpm. Intubation was prepared CPAP was commenced, at the same time she commenced intravenous fluids including frusemide.

The patient became anuric at 01:00 AM, post operatively; she was infused with 10 litres of fluid comprising gelofusine, mannitol and dopamine, but had a urine output of 10-15mls.

Blood results were as follows:

By 2.30pm urine output was 7-8mls. The renal team were contacted and the patient was transferred to the intensive care unit for haemofiltration with a diagnosis of acute renal failure. Venous access was attempted with no success so haemofiltration was not an option.

We decided to implement the immediate start-up policy for PD with this patient. A Tenckhoff catheter was introduced using a supra

Na+	140 mmol/l
K+	4.4 mmol/l
Urea	8.6 mmol/l
Cr	164 µmol/l

umbilical incision with a linea alba stab with local anaesthesia, this was performed by a surgeon in the intensive care unit with the assistance of the on call PD team.

Date	Albumin	Potassium	Sodium	Creatinine	Urea
21 May	26	4.5	145	65	6.2
22	26	4.4	140	164	8.6
23 AM	26	5.3	140	318	18.3
23 PM	26	5.7	140	379	18.7
24	26	5.5	139	408	20.3
Commenced Automated Peritoneal Dialysis 24 May (late eve)					
25 AM	26	4.6	139	342	20.7
25 PM	29	4.3	145	171	17.9
26	29	4.3	146	98	11.2

Table 1 Case study patient blood values

Primary peritoneal dialysis was then commenced using automated peritoneal dialysis (APD). A prescription of 1000mls of standard PD fluid was infused every 10 minutes, as per immediate start up protocol, this meant the on call PD team had to be present to support and educate the ITU staff in this mode of treatment; this regimen continued for a period of 10 hours only to find the patient was filtrating too much fluid per cycle. The cycles were increased to 60 minutes with an overall

dialysis time of 14 hours, eventually to 80 minute cycles.

Table 1 shows the patients' blood results over a period of 144 hours.

Bearing in mind this patient took 6 nurses to turn and required an A-frame for lifting, the exit site was cared for by the PD team and remained in good condition as it was positioned high and away from folds of skin imperative to its survival. All the time the Tenckhoff Catheter was in use the patient remained in bed. There were no leaks or infections from the Tenckhoff Catheter. The patient was constantly monitored by the renal team and the PD nurses, who attended the midnight assessment of the treatment. The patient continued on the regimen for 48 hours; after which she started to pass small amounts of urine.

The patient was then returned to the referring hospital where she continued to improve. She is now 76kg lighter and awaiting an apronectomy.

This case study shows that Peritoneal Dialysis can be used in an acute situation if you have the staff and means to provide the service required. (We are currently reviewing our immediate start-up protocol and have decided to call it primary peritoneal dialysis [PPD]).

2006 BAXTER RENAL SYMPOSIA: AN OVERVIEW

JANET WILD RGN, CLINICAL EDUCATION MANAGER, BAXTER HEALTHCARE



Working in an increasingly pressurised, stressful and busy renal unit, it's rare to have the opportunity to reflect on some of the challenges that face the renal community. In early summer 2006, Baxter Healthcare Ltd, in partnership with the Renal Association, Euro PD and Kidney Research UK, held 4 Regional Symposia in Edinburgh, Sheffield, Birmingham (pictured) and London.

These meetings focused on 3 areas of practice that raised interesting and debatable issues:

- Challenges of managing acute presenting ERF patients
- Strategies to preserve the life of the peritoneal membrane
- Dialysis in the Elderly

Locally held meetings gave an excellent opportunity for regional issues to be discussed. Along with local presenters, we had a number of international opinion leaders who gave us the benefit of their experience in new and innovative treatments.

During the session "Challenges of managing acute presenting ERF patients" Professor Povlsen from Denmark spoke about his experiences of starting patients urgently on APD. His programme utilises this practice to take advantage of some of the benefits of using PD first, such as the preservation of both residual renal function and vascular access. At Professor Povlsen's renal unit, nearly 50% of patients were starting dialysis acutely on HD in 1999. This raised a number of issues including denial of choice (only very few late presenting patients were later offered PD), and problems associated with using temporary vascular access such as infection, thrombosis and stenosis.

Over the past 5 years Povlsen has been utilising PD as a first line treatment for patients presenting acutely for dialysis and has experienced excellent results. There was no difference in survival between acute and planned start patients after adjustment for age >65 years and death or technique failure within the first 90 days. He concluded by stating that APD is a simple, safe and feasible option for acute start on chronic dialysis and that PD and HD are complementary therapies not only in the chronic, but also in the acute setting.

The session looking at "Strategies to preserve the life of the peritoneal membrane" covered many different aspects of PD, however one element featured in 3 of the four meetings – Encapsulating Peritoneal Sclerosis (EPS). This condition has been raised as a concern for some patients who have been on peritoneal dialysis long term. Due to its relative rarity,

occurring in just 2 to 3% of patients who have been on PD for more than 5 years, it is both difficult to predict and treat. Many of the cases that were presented surmised that there were a number of warning signs that could have predicted and perhaps prevented EPS.

"Dialysis in the Elderly" generated great discussions around discrimination, prejudice and denial of choice to this increasing population. Experiences of Assisted APD were shared and as a result a number of UK renal units are now looking closely at implementing a support programme that will enable elderly patients to be treated at

home.

The Baxter Renal Symposia 2006 were a great success. Comments from delegates included *"Very rounded day... Thought provoking. It's time we as professionals put PD back on the map. It has so much potential but we are allowing it to lose its way."* And... *"Excellent high quality presentations. Thought provoking & (occasionally) controversial. Just what's needed to generate discussion."*

Plans have already begun for Baxter Renal Symposia 2007 so watch out for details of the meeting near you.

DESIGN AND IMPLEMENTATION OF A PRE-DIALYSIS PROGRAMME

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DR KESH BABOOLAL, CONSULTANT NEPHROLOGIST

UNIVERSITY HOSPITAL OF WALES, CARDIFF

An Innovative Pre - Dialysis Team



The University Hospital of Wales serves a population of 500,000 covering a large geographical area over South Wales.

A number of specialist nursing roles have evolved over the last 10 years in Cardiff to meet the needs of pre-dialysis patients for education, anaemia and access management. However, this resulted in fragmented and often duplicated care.

Expansion and re-definition of roles was undertaken in order to streamline care and provide a more patient centred service in keeping with the new standards as outlined by the English Renal National Service Framework (NSF) 2004.

Four new specialist nursing roles were implemented in May 2004. Each Clinical Specialist Nurse (CNS) works with two or three Nephrologists managing patients within a defined geographical area.

Generic responsibilities include management of a designated caseload, providing education and ongoing support to pre-dialysis patients in the form of a home visit and regular follow up. Once modality choice is established, referral for access and transplantation is made.

Choice of treatments include unit haemodialysis, home haemodialysis, Peritoneal dialysis (PD), pre-emptive transplantation, living donation, kidney/ pancreas, non heart beating donation, as well as conservative management.

Each CNS manages their own caseload of conservative patients, as well as overseeing the anaemia management, which includes commencing patients on erythropoietin (EPO) therapy and referring for intravenous iron as appropriate and perform ongoing monitoring.

Data collection, entry and audit are ongoing, more recently benefiting from secretarial support. The introduction of this team approach has

allowed for greater numbers of patients to be seen at an earlier stage of the chronic kidney disease pathway.

In addition each CNS has their own area of expertise. The roles encompass:

- a PD specialist nurse who assesses complex patients and liaises closely with the PD team aiding smooth transition to chosen therapy.
- The Access Co-ordinator organises and prioritises theatre slots for access.
- The Anaemia Co-ordinator oversees the Anaemia Service, conducting regular audits of the service, as well as maintaining a robust database for the conservatively managed patients.
- A Specialist Nurse manages the late presenters to the service as described below.

Late Presenters – can we make a difference?

Late Presenters are variably defined as those patients who have not been previously reviewed by a Nephrologist. They present at stage 5 of Chronic Kidney Disease (CKD) and receive dialysis within one month of referral. In our experience these patients have historically remained on haemodialysis.

Standard 2 of the English Renal National Service Framework (2004) stipulates that the optimal time required to prepare the patient and their carers for renal replacement therapy (RRT) is one year. However, one third of people present less than one month before requiring RRT. This group have much poorer clinical outcomes as recognised by Roderick et al (2002).

Identified problem

The number of late referrals requiring dialysis and the frequency with which CKD occurs in the community provided the impetus for

the creation of a specialist nursing role within our unit. Traditionally, patients in our centre remained on maintenance unit haemodialysis with sub-optimal vascular access. There was ineffective education for modality choice and inadequate preparation of access.

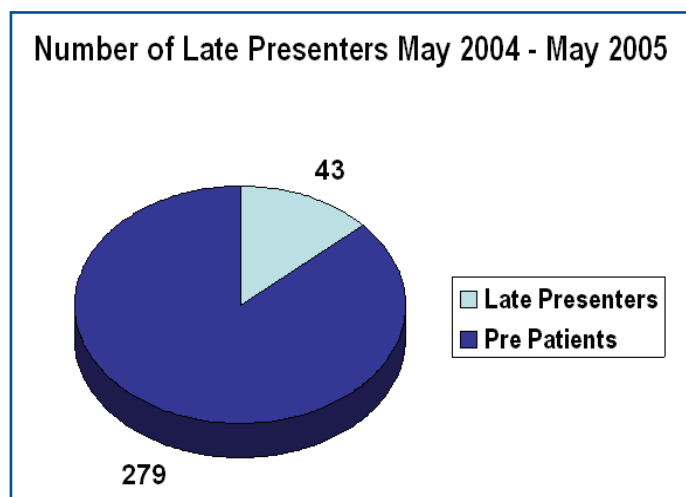
A CNS was appointed with the aim of managing this ever increasing problem. A database was created to capture the demographics, diagnosis and clinical presentation of these late presenters in an effort to improve our service.

Special needs of these patients

High mortality and high morbidity is widely recognised amongst this group of patients, which consequently leads to lengthened hospital stays and an increased cost of treatment. Levin (2002) acknowledges that late referral impacts upon a patient's life leading to missed opportunities for pre-emptive transplantation.

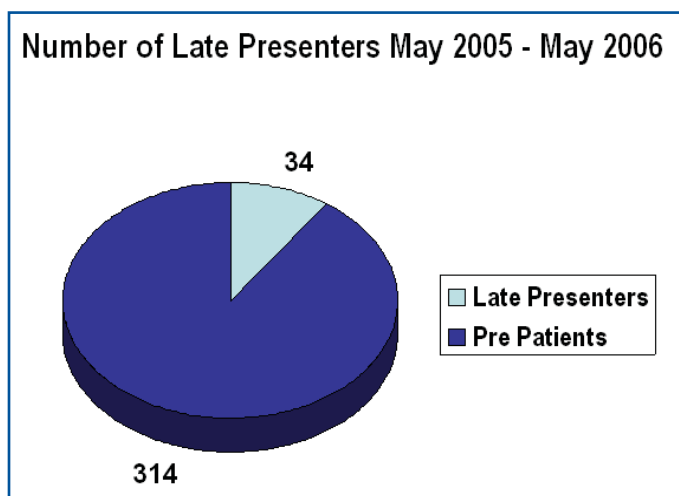
The recognised advantages of timely referral are well documented. Ifudu et al (1996) found lower hospitalisation at the start of dialysis if referred early. Better clinical outcomes such as improved nutrition and anaemia management were noted by Jungers (2002). Timely referral can lead to patient involvement in support groups which facilitates better psychological adjustment to illness and can improve quality of life, according to Bremer et al (1995).

Audit data



The percentage of late presenters equates to 15%.

Number of Late Presenters May 2005 - May 2006



The percentage of late presenters has reduced to 11% during this period.

Other data

Mean haemoglobin at presentation - 8.9g/dL, mean haemoglobin at 3 months - 11.2g/dL

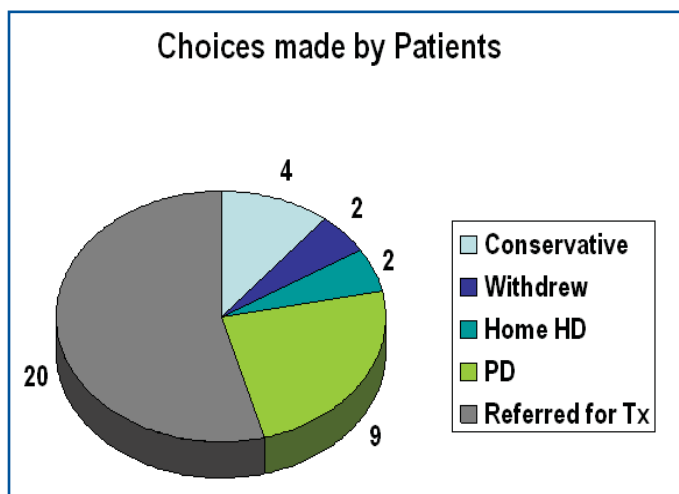
Mean age - 67, median age - 71, minimum age 32, maximum age 87.

Mortality figures

42% mortality in total in 24 months.
32% mortality within 6 months of referral.

Early death (within one year) on dialysis is associated with late referral.

All patients (aside from the 4 who chose the conservative route) commenced on haemodialysis.



Previously all late presenters commenced and remained on haemodialysis. Since the introduction of this role patients are now given choices. Of the nine patients who are currently on PD, two started PD immediately. Twenty patients have been referred for transplantation,

with eight currently active on the transplant waiting list.

Modifiable risks

Common known factors upon presentation include diabetes, hypertension and cardiovascular disease. Interestingly our audit data revealed only 35% of patients presented with these known pre-existing factors whereas the Renal Association UK Renal Registry (2002) found that as many as 23% of patients with diabetic nephropathy alone were referred late.

Patients presented with various conditions ranging from salmonella, acute confusion, headaches, haematuria, rectal bleeding and newly diagnosed myeloma.

CNS Role in caring for late presenters

The CNS role is to provide education and support to this disadvantaged group of patients; including an explanation and discussion of the modalities.

Several questions arise such as – When is the best time to educate these patients? How much do they retain? Do they receive a second rate service due to the existing organisational structure?

In our experience these patients require several visits and benefit most from short consultations. The initial visit can be extremely difficult as patients are usually overwhelmed and emotional, and unable to absorb any given information. An introduction is usually made whilst the patient is hospitalised, preferably with a member of the family being present, and at that time written information and contact details are left for their perusal. Patients are offered a home visit following discharge. A few patients prefer to be seen at the unit where they receive treatment. Follow up can continue for up to five months later. However, when patients have expressed an interest in switching to PD they receive a home visit swiftly following discharge and regular follow up in the form of phone calls and regular visits by the CNS at their respective dialysis unit. Referral to the surgeon is made for tenkhoff insertion without delay. Khan et al (1995) reported that late referred patients are less likely to become established on PD, possibly due to reluctance by some to change therapy as they become settled into a routine. This was also observed within our cohort.

Other aspects of the role include:

- To ensure safe transfer of care to the respective dialysis unit whilst maintaining open communication links.
- To ensure patients have an outpatient's appointment following discharge from hospital.
- To refer patients to the Clinical Psychologist if required (a few patients take advantage of this facility).
- To link in with the Access Co-ordinator. Expedition of access and transplant referral can be instigated when these patients are hospitalised if deemed appropriate.
- A care pathway has been devised.
- A regular circle of audit has been implemented.

Future plans

Our future plans are to continue to raise awareness of CKD amongst

Primary Care teams and the general public through educational initiatives such as seminars, open evenings and road shows.

We plan to develop group therapy support sessions specifically tailored to the needs of this cohort, since anecdotal evidence suggests the need for ongoing psychological support.

Furthermore there is an obvious need to continue to forge links and collaborate with other disciplines e.g. Diabetic Specialist Nurses, thereby enhancing the understanding of late presentation to renal replacement therapy and its consequences.

Summary

Implementation of this new and exciting role has improved equity of access to all aspects of nephrology services. Patients are now being given choices regarding their modality options along with the support they require. Patients have reported that they feel well supported and are aware of who to contact for further information and support. Many have welcomed the opportunity to talk, whilst expressing their emotions.

This role has resulted in improved clinical management in line with the standards of the Welsh Renal National Service Framework (2006).

REFERENCES

Bremer BA, Haffly D, Foxx RM, Weaver A (1995): Patients' perceived control over their health care: an outcome assessment of their psychological adjustment to renal failure *Am J Med Qual* 10: 149-154

Department of Health National Service Framework for Renal Services Department of Health (2004)

Ifudu O, Dawood M, Homel P, Friedman EA (1996): Excess morbidity in patients starting uraemia therapy without prior care by nephrologists *American Journal of Kidney Disease* 28:841-845

Jungers P (2002): Late referral: loss of chance for the patient, loss of money for society *Nephrology Dialysis Transplantation* 17:371-375

Khan IH, Macleod AM (1995) Identifying the high risk dialysis patient: what are the benefits? *Nephrology Dialysis and Transplantation* 10(12) 2176-2178

Levin A (2000): Consequences of late referral on patient outcomes *European Renal Association - European Dialysis and Transplant Association* 15:8-13

Roderick P, Jones C, Tomson C and Mason J (2002): Late referral for dialysis: improving the management of chronic renal disease *QJMed* 95:363-370

The Renal Association (2002) UK Renal Registry

Welsh Assembly Government (2006) Designed to tackle Renal Disease in Wales: A National Service Framework

INTERVIEW

PROFESSOR JOHN WILLIAMS, CONSULTANT NEPHROLOGIST



Professor John Williams is Consultant in Renal Medicine at University Hospital of Wales in Cardiff. He kindly took the time to tell us a little about his career to date and his involvement in the Welsh National Rugby Squad.

Tell me about yourself and your career in Medicine

I was born in Llanelli in South Wales and went to medical school in Cardiff in 1967. A project that I completed during my year out to do a degree in anatomy started an interest in research, after which I went back to my clinical role in Cardiff qualifying in 1973. I didn't have a clue what I wanted to do, so after a short spell in a Swiss ski resort as a doctor, followed by a season as a ship's doctor, I went into general practice in the Valleys. I hated it! and returned to hospital as a casualty doctor. My registrar role in the infirmary was in renal medicine and I spent a bit of time as a chest registrar in Llandaff. I completed my MD on sarcoidosis, after which I became interested in immunology and got a Royal College Fellowship to work with Frank Austin at Boston Harvard, and spent 2½ years working on inflammatory mediators. I came back to Wales ostensibly to be a Senior registrar in chest medicine. But because I had worked in the renal unit for a year, I got offered a lectureship in renal medicine. Within another year I had a consultant's post in renal medicine.

I then became a senior lecturer in 1985. I was interested in leukotrienes and when I became a consultant in Cardiff one of my colleagues, Mike Harver, died climbing and I incorporated his research programme into mine. My boss William Asher left Cardiff in 1988 to take over as Dean of St. George's Medical School and he told me when he left that I was taking over the department, or taking over the research departments. And I've been there ever since.

How much clinical work do you do now?

I've always been a clinician. I do acute medicine and renal on-call, plus 3 or 4 out-patient clinics a week. At the same time I run the Institute

of Nephrology as we call it, which is effectively the research arm of nephrology in Cardiff.

What started your interest in renal medicine?

My interest was infection or inflammation in relation to chronic inflammation and fibrosis. I got involved in PD research because it appeared that here was an environment in which there was controlled inflammation where you could get tissue and grow mesothelial cells and create models of inflammation in the laboratory to mimic as close as you could what was going on in vivo.

We obtained a grant from Baxter to grow mesothelial cells and then following that we got an MRC grant. We had a PhD student who came from Germany to work on that grant and I've worked with him ever since.

At the same time we started growing kidney cells to study inflammation in the kidney so that the department would have 2 different lines of investigation. There is one research group looking at diabetic nephropathy and diabetic renal disease and another looking at host defence and the peritoneal cavity. We try to keep 2 main research strands going continuously and then intersperse that with other clinical investigations if time permits.

Do you know many published articles you have?

It's somewhere between 200 and 250 peer reviewed articles, mostly on infection.

What other renal responsibilities do you have?

I run the clinical governance arm of the health commission in Wales, so that takes me half a day a week. As with everything else, there's been an NSF in renal disease in Wales. We're in the process of writing the responses. I've shared that over the last 3 years and I'm now acting as advisor to the assembly on renal disease. That was probably the biggest reason why I gave up running or directing the research institute.

Why do think PD academy is so successful and so popular?

It's really the only forum which can pull together nurses and doctors, SpRs in particular, where they have some formal training in PD. I mean they tend to get a lot of pre-dialysis, see patients in clinics, see patients

on the ward if they've got problems. But in terms of organising and running a therapy rather than treating its problems, that's one of the few fora that are available for it.

What particular element of teaching do you enjoy the most at the PD academy?

I think to run a PD programme you have to be an enthusiast. You need a much more holistic approach to patients to run a successful PD process, and the programme has to have a much bigger input from doctors and from nurses. It's a nurse and community-led programme but in order to make it function properly within the hospital environment, the person that's running the programme has to champion the programme to make sure that everybody else fits in with the principle, for example of PD first. I think that to me, probably the most important thing about the PD academy is that it brings registrars through at a training phase where you hopefully give them some degree of insight that they might not otherwise have had into the benefits of PD, rather than just the problems of PD. I think from that point of view, it's a PD educational and promotional tool for doctors. I think that for nurses it's a valuable education tool because they are as important as the doctors. This is where for example nurse consultants have a role.

And you are heavily involved in the Euro PD meeting aren't you?

Yes, Euro PD has been running for 16 years now – Next year in Helsinki will be the 8th meeting. We try to make the meeting as scientific as possible and we have been quite successful in focusing European groups and bringing them together. We foster and encourage quality research in PD, by nurses as well as doctors. It is a great forum for Specialist Registrars and nurses to present their research.

So I have to come to rugby because it's something that you're famous for!

Oh, I wouldn't say that! I mean I suppose a lot of my time in my life has been spent doing energetic things, such as mostly sailing and then rock climbing. I played a bit of rugby in school but I was completely taken up with climbing throughout my time in medical school and then in my training years as a doctor, I went to the Himalayas a couple of times and did a variety of things. In terms of rugby, I mean I just fell into that by chance. A friend of mine who has just not long retired was the doctor

for the Cardiff and for the Welsh Rugby Team and he asked me if I'd be willing to come along and help - that was back in the early 1990s. From that I just developed a greater and greater involvement with the Welsh A team. When the world cup came to Wales in 1999 I began to share in the national duties with Roger Evans.

From around 1992 onwards, having gained a qualification to support my role, I took more and more responsibility for the Welsh team. I went to the world cup in Australia with the team in 2003, and then since then have taken the bulk of the responsibility. Since last year, I have taken over full responsibility. I now have dedicated time for the team, up to a day a week, which the team pay the university for. The role involves creating policies for management of certain types of injury. We're in the process of creating a circular database so that we can get injury surveillance reports at the end of the year. I'm a GP part of the time and a psychologist part of the time.

What about your plans for the future?

Work-wise I'd like to see a national structure in place for managed clinical networks in nephrology, planning for bringing replacement therapy on a 5 year cycle, or something of that nature so that we can identify where the shortcomings are and where the growth is so that we can persuade the government to fund it.



As for rugby I fancy getting to the world cup in New Zealand in 2011. And then I'd probably call it a day. Unless I've been sacked before that!