

A History of Renal Medicine and Transplantation at the Institute of Urology and the 3 Ps (St Pauls', St Philip's & St Peter's),

later the Renal Unit at Middlesex Hospital and Institute of Urology and Nephrology, UC L

by Guy H. Neild

- 1860 St Peter's Hospital for Stone, Henrietta St., Covent Garden
- 1897 St Paul's Hospital, for skin and genitourinary disease. 1920 moved to Endell St., Covent Garden
- 1948 Institute of Urology (Specialist Postgraduate Teaching Hospital)
- 1952 St Philip's Hospital, Lincoln Inn. Henceforth the 3 Ps (Peter's, Paul's, Philip's).
- 1955 Physician appointed to investigate renal stones
- 1959 Dialysis Unit at St Paul's.
- 1968 First renal transplant
- 1991 First Established Chair of Nephrology in UK
- 1991 Institute of Urology and Nephrology at UCL
- 1992 Hospitals relocated to Middlesex Hospital

Unless stated Extracts from: **A History of the St. Peter's Group.** *Recalled by Eileen West (former Matron)*

The growth of medical urology (p76-7)

In 1955 a department for the investigation of renal diseases was started at St. Philip's Hospital, Sheffield St under the care of Dr AR Harrison (1955-81). At first, the work of this unit was mainly devoted to metabolic investigation of patients with stones, but during the next four years the scope widened. Instillation of the artificial kidney unit in 1959 enabled the medical department to undertake the treatment of acute and chronic renal failure.

Academic Board of Institute of Urology (p85-6)

Following the establishment of a metabolic unit at St Philip's, the Institute's academic board invited Dr Joeques (1959-1982) to join the staff as a part-time research fellow, with the object of developing research by renal biopsies in medical urological conditions and to help in the operation of the artificial kidney.

Dr. A. Mark 'Jo' Joeques (1914-2010)

[From Obituary written by Prof. J Feehally for Renal Assoc].

After qualifying in medicine, he decided to pursue a career as a physician and by the late 1940s had become a lecturer in medicine at the Royal Postgraduate Medical School, Hammersmith Hospital. Nephrology of course did not then exist as a speciality, but he soon became involved with Eric Bywaters in the early work using an artificial kidney obtained by Joeekes from Kolff in Holland who had designed and built it. The first patients with acute renal failure were successfully dialysed by Bywaters, Joeekes, and their colleagues in 1946-47. But despite some documented successes there was, remarkably little enthusiasm for dialysis treatment for acute renal failure since the conservative approach to management, using draconian dietary and fluid restriction, held sway in the same department of medicine.

AMJ was a forward thinking innovator and in 1954 was probably the first in the UK to perform renal biopsies. He moved to St Peter's Hospital and the Institute of Urology in 1959 where he investigated the pathophysiology of proteinuria and was an early advocate of the investigative and diagnostic potential of nuclear medicine applied to the kidney.

In 1950 he was one of the Renal Association's invited founder members. He was also Secretary of the Renal Association from 1956 to 1961. He presented his first paper to the Association in 1956, and the range of topics of his subsequent submissions to the Association over subsequent years make clear the wide range of his nephrological interest: the role of tubular proteinuria [1956] and albumin synthesis [1959] in nephrotic syndrome, focal glomerulonephritis [1958], acute renal failure during open heart surgery [1963] and renal oxalate handling in primary hyperoxaluria and chronic renal failure [1978].

In 1956 the Renal Association received a letter from Jean Hamburger on behalf of the Societe de Pathologie Renale proposing an international meeting on the kidney in Evian in 1959; eventually held in Evian and Geneva in 1960 this was the meeting at which the International Society of Nephrology was born. Joeekes played a key role as secretary of the organising committee for the meeting. He was perhaps the obvious person to lead for the Renal Association as he was its Secretary at the time; but probably more importantly he was quadrilingual, and could cope when Hamburger, who was to become the first ISN President, and others preferred business to be conducted in French. Joeekes is recorded as thinking that the first draft of the meeting programme was 'high on spa water and low on the science of renal disease' [the Evian water company was a major sponsor of the meeting], but as the appointed secretary of the organising committee for the Geneva/Evian congress, undoubtedly should take substantial credit for the congress's considerable success.

Renal work (p77-78)

The dialysis unit at St. Paul's, Endell St, opened in 1959, and was one of the first of its kind in Britain. In the first instance it was financed by the Institute of Urology, as haemodialysis was then experimental. The medical committee agreed that if patients were admitted directly for dialysis they would be under the care of Dr Harrison.... However, Dr Harrison was not appointed part-time consultant physician to the hospitals until May 1961, (his previous appointment was to the Institute). Liaison was maintained between the medical services of the Army and the Royal Air Force and the staff who would conduct dialysis. Visits were made to RAF Halton where early experiments in dialysis had been made. In 1963 Dr Harrison and Dr Joeekes provided renal dialysis to Hugh

Gaitskell, then leader of the Labour Party. A Scotland Yard van took the kidney machine from St Paul's to the Middlesex Hospital to dialyse Mr Gaitskell.

Renal work at the combined hospitals (p65-66)

The renal transplant sub-committee was set up and held its first meeting on 18 November 1963. After careful consideration, it agreed that recent developments in renal homo-transplantation in the United States showed it was now feasible to introduce this technique at St Peter's Hospitals. The emphasis previously placed on the need for complex isolation facilities was not fully justified, and the necessary skill and facilities could be made available at St Paul's if the study of renal homo-transplant was linked with the work of the renal failure unit, as the facilities for both forms of renal substitution were similar.

At their meeting in February 1965, the committee agreed that one unit should be designed to fulfil the three purposes for which provision was required: acute dialysis, intermittent dialysis, and renal transplantation. On this basis, a limited number of beds with substantial precautions against infection and organised on the double-door principle would meet the requirements at least for a period. At a meeting of the Ministry of Health, it was agreed that chronic intermittent haemodialysis was both feasible and ethical, and that the Ministry might support the establishment of four units of 10 beds for this purpose in the London area. The problems of staffing, technique and organisation had also been discussed in some detail and it was agreed that these units should be self-contained and separate from other departments.

In August 1965, the Ministry of Health sent a letter to the Board setting out the general policy for the intermittent dialysis unit:

'The long-term role we envisage for the hospital is that of a specialist centre to study and assess the needs of patients and stabilize them on dialysis and to act as a training and reference centre. We envisage that patients, once stabilised, would be sent to a satellite centre for routine dialysis and would be referred back only if complications arose. This, we think, would not only use the special skills and equipment available in the hospital to the best advantage but would also ensure that the hospital had a flow of patients adequate for its research and teaching needs'.

A temporary chronic intermittent haemodialysis unit was opened at St Paul's as a pilot scheme working within defined financial limits.

In 1966, the structural alterations to the new renal unit began and it opened in November 1966. Sir John McMichael, Director of the BPMF performed the official opening the following February. The Guardian newspaper reported:

'The first acute kidney unit with full supporting facilities in the NHS was opened in London. The unit with six beds and three artificial kidney machines cost £40,000 to set up and expected to cost £38,000 a year to run. Several of the doctors present had taken a leading part in the development of artificial kidneys and of kidney treatment since the days, just after the War, when a rudimentary machine got its first large-scale use at Hammersmith Hospital. They spoke against the repeated campaign to buy a kidney machine to save one person's life. They argued that it is more important to develop the technique of

transplanting kidneys, and their first duty is to learn to cure kidney disease before it has reached the hopeless stage at which a person can be kept alive only by endless recourse to the machine, 30 hours a week for ever. Sir John McMichael, saw successful transplant of kidneys as the next inevitable step. So far there is only one in four chance of a transplant being successful. But, he said the percentage of success is rising, and is certain it will go on.'

In 1968/69 it was proposed to plan the intermittent dialysis unit and a new outpatient department at St Philip's. They envisaged being able to treat 36 patients in a six-bedded unit. At a meeting to discuss the setting up of the dialysis unit the Dept of Health stated that they were in favour of the Kiil-type machine and that the allocation of funds would be based on this method to ensure equality throughout the country. Detailed comparative estimates for setting up the regular dialysis unit and improvements of the outpatient department and laboratory facilities were made. The first gamma-camera was purchased in 1965, and in 1967 Mr AR (Tony) Constable was appointed as the Physicist to the Institute.

With the retirement of Dr Harrison (1981) and Dr Joekes (1982) a new generation took over. Dr FD Thompson (1974-2003) had been Senior Lecturer and became the senior Consultant. His work was divided between the 3Ps and Harefield and Mt Vernon Hospitals in NW London. He was also Hon. Consultant Nephrologist to the National Heart Hospital. Because of his close ties with Prof Magdi Yacoub's Heart transplant unit anybody with ARF at Harefield who required dialysis was transferred to St. Paul's. From 1984-1991 it was common for heart and heart-lung transplants to be dialysed and ventilated in the basement high-dependency unit at St Paul's (those happy days before the patients were lost to the Intensive Care Units). FDT became Dean of the Institute of Urology and Nephrology (1985-98), across the period of relocation to the Middlesex Hospital and union with UCL. And a Clinical Vice Dean at UCL (1990-5).

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In 1984, Dr MA Mansell (1984-2010) joined the staff as a Consultant. His special interest was the research and management of renal stone disease continuing the legacy begun by Harrison, and later abetted by Dr AR Rose, Consultant Biochemist (1963-1990). Rose ran the oxalate stone service and with the move to the Middlesex Hospital this matured into the world reference centre for oxalate investigation and research (Dr Gillian Rumsby and Prof CJ Danpure).

Also in 1984, Dr GH Neild (1984-2006) was appointed as Senior Lecturer. His principal interests were transplantation and glomerular disease. His research dealt with the role of endothelium in renal disease and in particular the mechanism of cyclosporine toxicity. A renal haematology research group was established at St Philip's. A national meeting was held annually on 'Platelets and Endothelium in renal disease'. A UK registry for adult haemolytic-uraemic syndrome was set up which later moved to Professor Goodship in Newcastle. Close collaboration was developed with the Clinical Pharmacology Unit at the Royal College Surgeons round the corner in Lincoln's Inn Fields (where Prof. Sir Salvador Moncada worked before moving to Wellcome Pharmaceuticals).

Research at the 3Ps was always strongly supported by the St. Peter's Trust a research charity started by Dr Joekes. FDT maintained the strong medical link to the Trust until his retirement. An early ambition of the Trust was to raise money to fund initially a Chair in Nephrology, then in Urology. In 1991, the first established Chair of Nephrology in the UK was created at UCL, and GHN was

appointed Professor. The cost of a second Chair had by then become prohibitively expensive for the Trust.

A new period in transplant began in 1984 which coincided with the regular use of cyclosporine as immunosuppression. A dedicated transplant surgeon, Mr CJ Rudge was appointed (1985-1995). Because of our close ties with Urology and Gt Ormond St Hospital for Children, the 3Ps had a huge clinical practice and expertise in the management of children and adults born with congenital abnormalities of the bladder and kidneys (CAKUT). Over the next 20 years a series of papers were published describing out transplant experience with this urological group.

With our move to the Middlesex Hospital in 1992 more space was available, and out liaison with Urology was maintained. Professor OM Wrong had just retired as Professor of Medicine at UCH and joined us as Emeritus Professor and with him he brought his huge experience and clinical practice of patients with tubular disorders that in turn he had inherited from Professor Charles Dent. During this period OMW published in detail his work on 'familial renal failure with renal stones' a condition that he named Dent's disease and was co-author of the paper in Nature describing the gene defect – of what was to be the first kidney stone disease with a genetic explanation [*A common molecular basis for three inherited kidney stone diseases. Lloyd SE, et al. Nature. 1996; 379: 445-9*].

With the appointment of a Professor, Dr RJ Unwin was appointed as Senior Lecturer (1992, Professor 1997, St Peter's Chair of Nephrology 2000). His background was in hypertension and tubular physiology and he had recently returned from Yale. Apart from establishing his research at UCL he was able to take over and continue the Dent-Wrong tradition and the large clinical practice of families with inherited tubular disease. His department is now an international centre for treatment and research of renal tubular disease.

In the early 1990s other Professorial appointments in Nephrology were made in London (initially Pusey, Raine, Sacks, Oliveira, Powis) and it was reasoned that as a group in North Thames we could make a powerful force by close collaboration. From these discussions emerged an annual transplant audit meeting later the Pan Thames Transplant Audit, a regular series of medical audit meeting with selected topics (e.g. *Outcome of ANCA-associated renal vasculitis: a 5-year retrospective study. Booth AD et al. for Pan-Thames Renal Research Group. Am J Kidney Dis. 2003; 41(4):776-84.*) And finally the creation of an equitable system for pooling and sharing donor kidneys which was then taken up nationally.

During the period at Middlesex a joint programme for the management of the Nephro-urology patients (with CAKUT) was developed with Professor Woodhouse, Consultant Adolescent Urologist. This has resulted in many publications and provides a large database of experience and research. This has been continued at UCH.

In 1997, Dr RG Woolfson was appointed Consultant and in 2003 Dr JO Connolly was appointed.

With the closure of the Middlesex site there was a decision to unite with the Royal Free Hospital renal unit in Hampstead and a staggered move was made there over the period 2004-6. The combined UCL Centre for Nephrology is now located at the Royal Free Campus. With the move to

the Royal Free the close link with Urology was ended. (*A sad observation in view of the Royal Free Unit's being set up by a urological surgeon! Editor.*)

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