Renal Research Unit
Royal Derby Hospital

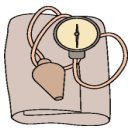
Derby Hospitals NHS
NHS Foundation Trust

Derby Renal Research Newsletter July 2011

A big thankyou!
The people who volunteer to take part in a clinical trial play an essential role in helping researchers to develop and test treatments for the benefit of everyone. We would like to send our thanks to all the patients, relatives, and staff who have participated in our research, past and present. This research has been receiving national and international recognition and is leading to important changes in practice. Most of the research has been funded by our Derby staff applying for grants from national research charities in open competition. A significant part is also funded by Derby's own renal research fund. This newsletter will update you on the progress of recent studies.

Meet the research team
All members of Derby renal unit staff from the ward clerks, dialysis technicians, nurses, dietician, physiotherapist, junior and senior doctors are involved in patient research. The director of the research is **Dr Chris McIntyre** who supervises most of the full-time research staff.

PREHAB is a programme for patients starting dialysis, to enhance and maintain their health and reduce hospital attendances. Patients with chronic kidney disease can suffer from tiredness and muscle weakness. Those close to needing or just starting dialysis, are particularly vulnerable. We are working on a package of support from the whole multidisciplinary team to help maximise quality of life. This will also include a program of graded exercise. You may already have helped by completing a questionnaire about the experience of having chronic kidney disease. The work is being led by **Fiona Willingham** one of our dieticians and **Gillian von Fragstein** our physiotherapist.



Can the use of a blood pressure cuff protect the heart from the stress of dialysis?
We know that in perhaps 2 in 3 people, areas of the heart muscle suffer stress during dialysis and don't pump as well as normal. This can lead to low blood pressure during dialysis and might partly explain the higher rate of heart disease in dialysis patients. We know from studies done in heart surgery that allowing a

Taking pride in caring

DERBY 1970 40 2010 YEARS

blood pressure cuff to restrict blood flow to the arm or leg for a few minutes causes chemicals to be released in the heart, where they appear to protect it from damage. The hope is that this simple and cheap technique could be used to reduce the development of heart disease in dialysis patients. This study has been funded by the **British Heart Foundation**.

Dr Helen Jefferies
Congratulations to Helen who recently completed 3 years of research looking at different ways of giving haemodialysis that might reduce heart damage. She has tested the effects of giving oxygen, time on the machine and frequency of dialysis. She also explored new blood tests which may help to clarify the cause of heart disease. Helen competed for and won a fellowship from the charity, **Kidney Research UK** which recognised Helen's potential and of Derby's reputation for kidney research. Helen has presented the results at many medical conferences and published in medical journals. This work is being submitted as Helen's PhD thesis to the University of Nottingham. Helen is back in clinical training but you may see her on the unit from August 2011. Thanks to all those who took part in her studies.

Haemodialysis at Home
Nationally the numbers of patients on dialysing at home is low. Here in Derby the number of our patients doing home dialysis is much better- however as a team we recognised that not all suitable patients were considering this as an option.

While dialysing at home is not for everyone it is recognised to offer real benefits and this has been a focus of recent work

Chris Swan demonstrating a home haemodialysis training package developed for patients to use on computers at home or whilst on dialysis.

by the dialysis team. One of your dialysis technicians **Chris Swan,** was presented with an award by the **European Dialysis and Transplant Nurses Association** for his work on improving this pathway for home haemodialysis. Chris also had a fantastic response from you to his recent questionnaires. One was sent to patients dialysing at home to understand their experiences of home dialysis and the other to patients having haemodialysis in hospital to identify some of the barriers to dialysing at home. He is looking forward to sharing his findings with you and to other kidney care professionals at this years **British Renal Society Conference** in Birmingham.

Community Team
The community team have also been busy. Their work on retraining programmes which has been presented at several conferences has reduced infection rates and maintained our patients' skills and confidence.

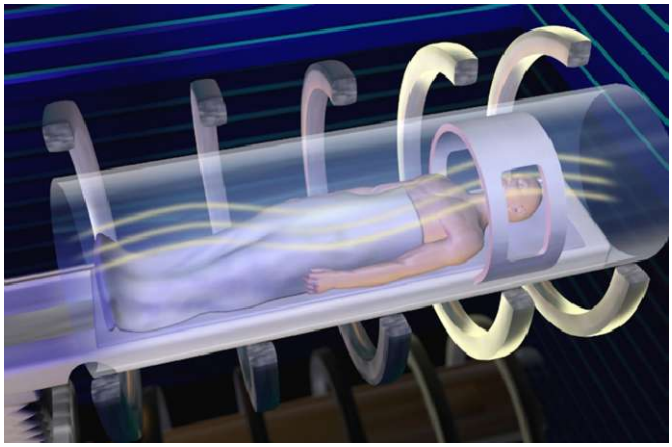
Sister Jane Moreland who many of you know from ward 407 designed a mouth care assessment tool as she'd recognised

that when patients are admitted to hospital they are often too unwell to care for their own mouths. This was practical, easy to use and was recognised to be so important that it is now used throughout the hospital. Well Done Jane.

The **Supporting Young Adults (SYA) project** is an 18-month project supported by NHS Kidney Care. The project runs across both Derby and Nottingham Hospitals supporting around 80 young adults in total this includes those who have had a transplant, are on dialysis or those who have some form of kidney problem.

The project employs 2 members of staff, Matt, a young adult worker and Heather, an assistant psychologist. **Matt** and **Heather** are employed to work with young adults directly providing activities and support, and also to do some work in the background to help raise awareness of the issues faced by young adults to help improve your experience of living as a young adult with a kidney problem. Neither Matt nor Heather are medically trained and therefore offer a different approach from what you may be used to from your doctor or nurse. There are loads of different aspects of the project including a **one-to-one service**, social activities, residential, group work opportunities and the chance for you to take part in some research and have your voice heard.

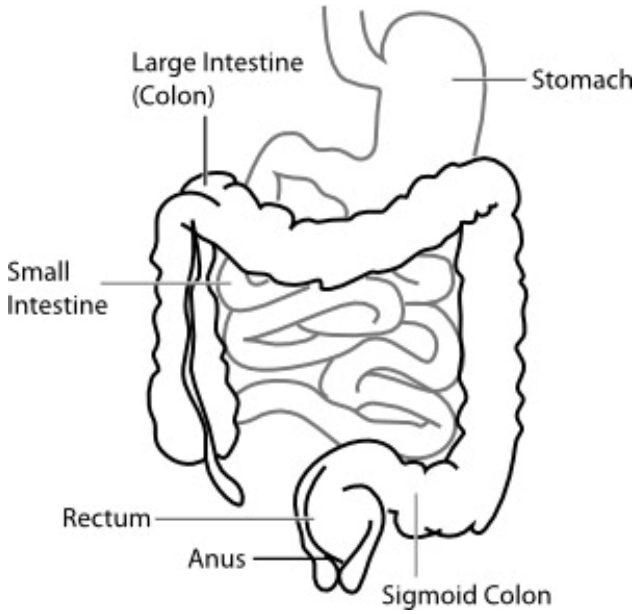
Dr Zoe Pittman is working with University of Nottingham's Psychology department to investigate beliefs about kidney disease and what treatments you would prefer in those who are close to or already started dialysis as well as those with kidney transplants. This will involve a number of face-to-face interviews and questionnaires. We believe that the insights gained from this work will help us both to improve the service offered to patients and also inform future research.



What is an MRI scanner?
An increasing amount of kidney research in Derby uses MRI scans. MRI stands for Magnetic Resonance Imaging. Unlike X-rays and some other tests, it does not use any radiation. The MRI scanner is a short tunnel about 1.5 metres long surrounded by a large circular magnet. You lie on a table which then slides into the scanner. A 'receiving device', is placed around, the part of the body being examined. This detects signals from your body and a computer uses the signals to make detailed pictures.

Dr Tobias Breidthardt is with us for one year from Basel, Switzerland. He is conducting a study that uses an MRI scanner setup in a special way to look at how heart function affects blood flow in the kidney in patients with heart failure both with and without kidney disease. The advanced techniques are only available in a special research scanner at the University

of Nottingham. This study is being performed with the help of the community heart failure nurses and Dr Steve Burn, consultant heart doctor.



Dr Laura Harrison is conducting studies to see how both haemodialysis and peritoneal dialysis affects the gut, and to identify ways of reducing these effects and improve how people feel during and after treatment. One study uses MRI scans to look at the whole gut in detail comparing people on peritoneal dialysis and haemodialysis to those without kidney disease. The work is funded by an award from **Baxter Healthcare** which recognised Royal Derby Hospital as an excellent research centre which was unique in being able to perform this work.

Members of the research team **Dr Tarek Eldehni** and **Dr Aghogho Odudu** recently won a prize at the **International Society of Blood Purification** research meeting for early results from a study using MRI scans to look at heart and brain function in haemodialysis patients. The study is still ongoing and is funded by the **National Institute of Health Research**. Thanks to those who have taken part so far.

From left to right are Lindsay Chesterton, Tobias Breidthardt, Helen Jefferies, Nitin Kolhe, Laura Harrison, Chris McIntyre, Paula Welch, Maarten Taal, Natasha McIntyre, Richard Fluck, Rebecca Packington, Aghogho Odudu and Philip Evans.

R^2ID Study

The **Renal Risk in Derby (R^2ID) Study** is ongoing and has recruited 1822 participants in the East Midlands with moderate chronic kidney disease (stage 3) to investigate what can predict worsening of kidney disease and heart disease over 10 years. All the studies were performed in the community usually at GP surgeries. The study involved checking blood pressure, weight, height and body shape. There were also blood and urine samples and measures of how stiff small and large blood vessels are. This work is supported by a fellowship grant to **Natasha McIntyre** from the **British Renal Society** and **Kidney Research UK**. Natasha has completed following-up all the patients after 1 year and is currently looking at the early results. The real value of this study will be in 5 to 10 years time and demonstrates how long some research needs to have an impact. We look forward to keeping you updated.