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the future 07 
 where
to now



The Renal Society of Australasia Conference

Volume 3 / Supplement 1 / August 2007

Abstracts
Renal Society of Australasia 35th National Conference





Renal Society of Australasia Journal

Journal of the Renal Society of Australasia

ISSN 1832-3804
VOLUME 3:S1 AUGUST 2007

The *Renal Society of Australasia Journal* is an official publication of the Renal Society of Australasia Incorporated

Renal Society of Australasia Incorporated

Publisher

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The RSAJ is a peer reviewed journal indexed in CINAHL, Expanded Academic and stored with the Australian Serials Unit, National library of Australia.

Aim and Scope

The Renal Society of Australasia Journal: Journal of the Renal Society of Australasia is the peak scholarly journal for nephrology nurses and associated professionals to share their ideas and their research to promote evidence-based, high quality care for persons living with renal disease. The Journal provides a national and international forum for the exchange of ideas, practice and research. It is a vehicle for on-going education.

Articles are peer-reviewed by experts in the field of the submitted work. The Renal Society of Australasia Journal is a refereed journal and subject to blind review.

Articles contained in this journal are the opinions of the authors and not necessarily those of the Editor, Editorial Board or the Renal Society of Australasia.

The Editor welcomes the submission of articles, research papers, case reports, reviews and letters.

Subscription

Members of the Renal Society of Australasia receive the Journal as part of their annual membership. To receive a Renal Society of Australasia Journal you are required to join the Renal Society of Australasia.

The RSAJ will be published three times per year in March, July and November of each year.

To receive further issues go to:
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and follow the links to new membership.

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Conference Program

Renal Society of Australasia 35th National Conference

PERTH, WESTERN AUSTRALIA
AUGUST 15 - 18, 2007

Wednesday, August 15

10:00-12:00

Workshop 01

Workshop 1 - Promoting Self-Management
Studio One

Promoting Self-Management

Pam Deans, Australia

Kate North, Midland Satellite Dialysis Unit, Australia

10:00-12:00

Workshop 02

Workshop 2 - Workforce Retention

Swan Room

Workforce Retention

A/Prof Di Twigg, Sir Charles Gairdner Group, Australia

Sue Davis, Sir Charles Gairdner Hospital, Australia

13:00-15:00

Workshop 03

Workshop 3 - Pre-End Stage Renal Care

Swan Room

Pre-End Stage Renal Care

Dr Chris Jones, King's College Hospital, United Kingdom

Pam Deans, Australia

Jon Hosking, Australia

13:00-17:00

Workshop 04

Workshop 4 - Writing for Publication

Studio One

Writing for Publication

Paul N Bennett, Flinders University, Australia

10:30-12:30

Concurrent 08

Concurrent Session 2

Plaza Ballroom East

13:00-13:25

Poster PO1

Poster Session 1

13:30-14:30

Plenary 09

Pre-End Stage Care

Plaza West & Central

15:00-16:00

Plenary 10

Psychological Issues

Plaza West & Central

16:00-17:00

Concurrent 11

Concurrent Session 3

Plaza West & Central

16:00-17:00

Concurrent 12

Concurrent Session 4

Plaza Ballroom East

18:00-19:30

Meeting 13

Welcome Reception

10:30-12:30

Concurrent 16

Concurrent Session 5

Plaza West & Central

10:30-12:30

Concurrent 17

Concurrent Session 6

Plaza Ballroom East

13:00-13:25

Poster PO2

Poster Session 2

13:30-14:30

Plenary 18

Retrosternal Catheter Use

Plaza West & Central

14:30-15:30

Plenary 19

Psychological Issues

Plaza West & Central

16:00-17:00

Panel Discussion 20

Panel Discussion

Plaza West & Central

Thursday, August 16

08:30-09:00

Meeting 05

Conference Opening

Plaza West & Central

09:00-10:00

Plenary 06

Vascular Access

Plaza West & Central

10:30-12:30

Concurrent 07

Concurrent Session 1

Plaza West & Central

Friday, August 17

08:30-09:00

Plenary 14

Workforce Issues

Plaza West & Central

09:00-10:00

Plenary 15

Vascular Access Outcomes in the DOPPS

Plaza West & Central

Saturday, August 18

09:00-10:00

Plenary 21

Magnet Hospitals

Plaza West & Central

10:30-12:00

Meeting 22

AGM

Plaza West & Central

- Presentations

- Announcement of the RSA Sydney 2008

- Close of Conference

Selected Abstracts Renal Society of Australasia Conference

Keynote Speaker Presentations

Three Decades of Trials and Tribulations with Vascular Access: 201

W Kirt Nichols,
University of Missouri Health Care,
United States

Vascular access has been described as the Achilles Heel of hemodialysis renal replacement therapy. I have been the principle “hemo-access surgeon” in my institution for more than 3 decades. Although we try to follow a “fistula first” policy we have a wide experience with primary arteriovenous fistulas, bridge grafts and catheter based dialysis. The presentation will focus on the creation, management, and salvage of these life critical accesses as well as management of problems such as “vascular steal”, aneurysm, and the failing access. Many of our strategies now involve catheter based interventions for evaluation and therapy.

The Development of a Nurse Led Renal Insufficiency Clinic: 218

Chris Jones,
King’s College Hospital,
United Kingdom

There is concern that nephrology services will not cope with the comprehensive referral that may follow the outcry around late referrals, the introduction of more sensitive measures of renal function such as eGFR, and the publication of updated guidelines on renal disease management that highlight the importance of early detection and treatment. Further pressures are expected from increased referrals due to demographic changes including the ageing of the general population and epidemiological trends such as the predicted type 2 diabetes epidemic and improved survival in vascular disease.

These pressures have led to an interest in alternatives to the traditionally resource intensive hospital nephrology clinic. This may include greater sharing of chronic kidney disease (CKD) care with primary care services, especially as much of what is recommended by nephrologists for patients with CKD would be standard cardiovascular risk interventions. The alternative is better use of the expertise within renal services. Most renal units now employ specialist nurses to augment nephrologist care. These include such roles as anaemia, pre-dialysis and vascular access specialist nurses. Essentially all of these take the more routine tasks usually performed by physicians and give them to nurses working to pre-defined protocols and guidelines, freeing up doctors’ time for more other work. The ideal model would be a combination of the two. This session will describe the development of a unique consultant nephrology nurse role that encompasses both a general nephrology clinic role as well as a support, advice and education resource for primary care physicians.

Psychological Care of the Pre-dialysis Patient – Understanding Change: 200

Jean Hooper,
United Kingdom

This is about change: change from a healthy person with independence, life plans, established self-image and well rehearsed life roles into a patient facing dependency, loss, trauma and major life adjustments, experiencing grief and anger, and feeling impotent, confused and isolated.

Psychological models of health/illness behaviour will be illustrated and used to explain normal reactions to life-changing events. A review of recent research will identify and outline the particular difficulties faced by people diagnosed with kidney failure.

Although grounded in established models and current research, this overview of the psychological needs and responses of the pre-dialysis patient never loses sight of the real people in our care. Individual differences and responses to care are illustrated by the renal histories of three people and their reactions to their condition.

End-stage workforce failure; prevention is essential: 320

Di Twigg,
Sir Charles Gairdner Group, Australia
Sue Davis,
Sir Charles Gairdner Hospital, Australia

This paper will explore the anticipated demand for renal care and the subsequent health workforce needs. National and international trends strongly suggest that there will be inadequate population growth to support the workforce to meet the health care needs of the community over the coming decades. In this environment, medical, nursing and allied health workforce trends are unlikely to keep up with demand. What can you do to change this trend? Workplaces can implement a number of strategies that can positively change the local work environment to create an exciting and proactive place to work and subsequently retain high calibre staff.

A 20 Year Personal Experience Using the Missouri Swan Neck PD Catheter: 319

W Kirt Nichols,
University of Missouri Health Care,
United States

We began using the available straight Tenkoff catheters in 1978 placed in the surgical suite by cutdown through the linea alba. Our group became rather quickly disenchanted with the straight, single cuff catheters for 2 reasons; 1) leak and 2) exit infection.

We sought ways to minimize the problems we had encountered. Very early we learned 2 lessons; 1) the exit should have a downward direction and more than one cuff to stabilize the catheter and prevent infection, and 2) the deep cuff should be in a paramedian position in the rectus muscle to promote tissue ingrowth and thus decrease the risk of leak of fluid and migration of infection down along the catheter. Initially we placed straight catheters in a curved tract to achieve the downward direction of the exit site. The "shape memory" of the catheter tended to straighten the catheter and caused the superficial cuff to erode. Working with the manufacturer we had the catheters manufactured with a permanent bend to avoid that problem. We made several refinements and began placing the "abdominal" catheters in April 1986.

Some patients continued to experience difficulty with the "abdominal" catheter, namely the obese and those with a variety of stomas. For this reason we modified the design, added an additional cuff, and extended the exit site up onto the anterior chest wall in 1991. Since 1995 we have placed Presternal Missouri Swan Neck catheters exclusively. Our data and techniques of implantation will be shared at the conference.

Staff peed off? - Stemming the flow!: 321

Di Twigg,
Sir Charles Gairdner Group, Australia
Sue Davis,
Sir Charles Gairdner Hospital, Australia

Workforce projections predict significant and far reaching shortages in all categories of healthcare staff. In this environment a culture that supports retention of highly skilled and experienced health care staff is essential. Over three decades of research have described the fundamental 'essentials of magnetism' which create and sustain a practice environment that retains clinical staff and importantly also improves patient outcomes. In these practice environments workforce redesign has also resulted in initiatives that support health care staff to deliver high quality patient care. This paper will discuss and analyse the critical elements that any health service requires to translate this research into practice.

Water Standardisation – How do we do it?: 202

Robyn L Bailey,
Toowoomba and Darling Downs
Health Service District,
Australia

A survey conducted in 2006 by the Queensland Nephrology Nursing Network identified that haemodialysis patients were at risk due to the inconsistencies that exist across Queensland Haemodialysis Units in relation to haemodialysis water guidelines. This survey highlighted that Queensland Haemodialysis units differ in the use of water guidelines, testing regimes and staff designated for this.

When these findings were presented to the Southern Area Health Service endorsement was forthcoming for the introduction of a Haemodialysis Water Project. A project officer commenced in February, 2007 and will provide recommendations on:

1. Water Guidelines for use in Queensland Haemodialysis Units and for in home dialysis.
2. Water testing regimes addressing the issues of sampling, frequency, collection, transportation and accountability.
3. Workplace Instructions and Competencies for quality haemodialysis water provision.
4. Future requirements or direction outside the scope of the current project.

The report for this project will be presented in July, 2007 to the Southern Area Health Service. It will address the issues identifying Water Guidelines for use in Queensland, provide an educational package for use by the units in water quality education and discuss future water quality issues.

This project is an exciting step forward for the Queensland Nephrology Nursing Network and for the Queensland Renal Technicians who identified the need for these issues to be addressed over nine years ago.

Pregnancy and Dialysis; A Report of 6 Cases, What We Have Learnt: 203

Roxanne N Perry,
Children, Youth & Women's Health Service,
Australia

Kathryn Boundy,
Children, Youth & Women's Health Service,
Australia

Paul Henning,
Children, Youth & Women's Health Service,
Australia

Ken Juredini,
Children, Youth & Women's Health Service,
Australia

Marianne Sturm,
Children, Youth & Women's Health Service,
Australia

Introduction:

Reviewing and sharing our experiences in successfully managing 6 pregnant women with ESRF requiring Haemodialysis during the antenatal and postnatal period at the Women's and Children's Hospital in Adelaide South Australia

Discussion:

During the past four years we have had the privilege to manage 6 women undergoing chronic Haemodialysis during pregnancy. Five have delivered normal infants at between 33 and 38 weeks gestation and one is currently at 35 weeks gestation with an apparently normal Fetus. Four were already receiving chronic Haemodialysis at the time of conception. The others began Haemodialysis at 20 weeks gestation and had underlying chronic renal failure at conception. Our protocol includes 6 days per week dialysis.

The program has been successful due to the cooperative approach from the multidisciplinary team consisting of Nephrologists, obstetricians, general physicians, dialysis nurses, midwives, dieticians, physiotherapists', psychologists and social workers.

I will share our experiences in the clinical aspects of antenatal dialysis care, post natal dialysis care and the psychosocial impacts of treatment for these women including discussion of the following:

Should we offer the chance of pregnancy to women on dialysis?

Contraception whilst on dialysis and in Chronic Renal Failure needs to be discussed more readily, what is the nephrology nurses role in this?

Conclusion: To educate nephrology nurses on the nuances of this "new group" of Dialysis clients. Provide an aid to service planning and care planning needs for dialysis clients of child bearing age including education about contraception and choices in family planning.

Pedal Study - Pulse Wave Measurements and Exercise in Dialysis Patients and Effect on Life Style: 204

Marianne Smith,
Launceston General Hospital,
Australia

Lisa M Anderson,
Launceston General Hospital,
Australia

Kirsten Koh,
Launceston General Hospital,
Australia

Robert G Fassett,
Launceston General Hospital,
Australia

Purpose:

To compare the effects of supervised and home based exercise training on functional capacity, physical functioning, pulse wave velocity, self-reported health and physical activity in hemodialysis patients.

Methods:

Forty maintenance hemodialysis patients were randomized to receive either supervised cycle training during dialysis (S), a home based walking program (H) or usual care (C). The goals of the training programs were to complete three sessions per week and eventually be exercising for 45 minutes per session at an RPE of 13.

Results:

After three months, twenty seven patients (males=16, mean±SD, age=52±12yrs, BMI=29±9) remained in the study (S=8, H=9, C=10). Training compliance over the three months was S=90% and H=80% in the remaining patients. There were no significant ($P>0.05$) time or group differences in pre to post changes in six minute walk time (S=13%, H=5%, C=12%), get-up-and-go time (S=1%, H=2%, C=9%), pulse wave velocity (S=8%, H=12%, C=3%), self reported mental (S=6%, H=6, C=4%) and physical health (S=14%, H=7%, C= 1%). Of interest was the finding that increases in health enhancing physical activity levels (including time spent training) were not different between groups (S=400%, H=500%, C=200%).

Conclusions:

After three months, there were no differences in functional capacity, physical functioning, pulse wave velocity and self-reported health in hemodialysis patients randomized to supervised cycle training, home based walking or usual care. An increase in physical activity levels in the usual care patients may explain the unexpected lack of differences between these and the exercising patients.

Palliative Care: A New Beginning in Dialysis Symptom Management: 205

Elizabeth Josland,
St George Hospital, Australia

Shelley Tranter,
St George Hospital, Australia

Frank Brennan,
St George Hospital, Australia

Mark Brown,
St George Hospital, Australia

Introduction:

The symptom burden experienced by the dialysis population has a detrimental effect on self-reported quality of life (QoL). The aim of this study is to determine whether palliative care improves the QoL of dialysis patients through better symptom management; initial findings were presented at the RSA Melbourne 2006.

Methods:

This is a seven-month prospective, randomised controlled trial conducted in a hospital haemodialysis unit. Patients in the intervention group have their symptoms managed using palliative care expertise; the control group receive usual care. Baseline measurements include factors that may influence QoL such as age, Kt/V, haemoglobin and albumin.

Results:

Surveys reveal a low self-reported QoL compared to Australian norms, supporting previous findings in this unit; and a high level of symptom burden such as lack of energy 81%, sleeping difficulties 71% and itching 63%. Recruitment has now ceased due to lack of numbers, 53 recruited out of 96 required. Analysis of the final surveys are underway to measure an effect of the palliative care intervention on the patient's QoL, symptom burden and functional assessment, significance is unknown at this stage, but valuable anecdotal lessons have been learned and there is a potential for further research.

Conclusion:

Dialysis patients have a symptom burden that has a significant impact on their lives. The potential for improving QoL through the use of palliative care is an avenue already explored in chronic illness and should be utilized as part of everyday renal practice to improve the end stage disease experience.

More Than Just the Blues - A Staff Perspective of Depression and Dialysis: 206

Anthea P White,
North West Dialysis Service, Australia
Alicia K Miksa,
North West Dialysis Service, Australia
Jodie N Morgan,
North West Dialysis Service, Australia

Depression is a common human emotional state in response to life and its events. Signs and symptoms include sadness, lethargy, appetite changes and withdrawal from normal social interactions. When a number of these indicators are present for a defined period and become disproportionate to reality, clinical depression may be diagnosed.

The risk of depression is high in patients with serious medical conditions, including chronic kidney disease (CKD). However, in CKD, the overlap in symptoms between depression and uraemia commonly makes diagnosis difficult. An estimated 20-30% of haemodialysis patients suffer from depressive disorders, with 10% suffering major depressive disorders (Cukor et al Nat Clin Pract Nephrol. 2006;2:680). Despite its acknowledged incidence in CKD literature, there is minimal focus on its management.

The purpose of this study was to determine the perceived ability of our staff to support patients with depression. An anonymous self-assessment was distributed to 95 haemodialysis staff working in six metropolitan satellite units. Forty-two (44%) surveys were returned.

Ninety-five percent of respondents were able to name two or more major symptoms of depression and all respondents were able to nominate available internal resources. Forty percent of respondents indicated that they had some type of formal training in depression. Despite this, 36% felt they were not confident in managing a potentially depressed patient.

In the CKD setting, the unique relationship that often exists between patients and staff enables early detection of depression. However, 93% of our respondents indicated they would benefit from education in strategies to better manage a depressed patient.

Overcoming Isolation in Regional Dialysis Units - A Ray of Hope!!!!: 207

Ray E Steenveld,
Melbourne Health, Australia

ESKD patients in regional Victoria welcome dialysis units at close proximity to their residence, hence averting city hospitals for dialysis treatment. However, regional dialysis nurses commonly work in an environment of isolation and limited support.

In 2003, a survey and focus group meeting were conducted by North West Dialysis Service (NWDS) to establish the needs of regional staff. The survey encompassed clinical, educational and communication factors.

Survey results indicated:

- Satisfaction with clinical support but requested more contact from parent hospital
- Dissatisfaction with initial training follow-up.
- A request for a formal dialysis assessment 3 months following initial training.
- Request for education around blood pathology.
- Dissatisfaction with communication about patient discharge.

Corrective strategies post-survey included:

- Increased Regional Nurse Consultant visits
- Onsite regional support immediately post-training
- Basic skill assessments to measure competencies
- Increased regional seminars with multi-disciplinary presentations
- Tailor-made pathology record tool and guidance around reporting abnormal levels
- Promotion of holiday dialysis at regional units to increase regional staff exposure to wider experiences
- Appointment of additional 0.5EFT to regional education.
- Increased medical and nursing awareness within parent unit about regional staff needs, including timely communication regarding patient discharge

Since 2003, ongoing annual regional staff surveys have demonstrated consistent satisfaction rating indicating that regional staff needs are being met. This reinforces that quality systems are an integral requirement in the promotion of appropriate and timely support for regional centres.

Does Maintenance IV Iron for Haemodialysis Make a Difference?: 208

Deborah Knagge,
Sydney South West Area Health Service,
Australia
Bengy Lau,
Sydney South West Area Health Service,
Australia
Noemir Gonzalez,
Sydney South West Area Health Service,
Australia
Josephine S. Chow,
Sydney South West Area Health Service,
Australia

Introduction:

The introduction of a proactive maintenance iron policy with 100mg intravenous iron polymaltose for haemodialysis patients was initiated to improve target ranges for serum ferritin, transferrin saturation (T SAT) and Haemoglobin levels.

Method:

From June 2005, haemodialysis patients with target T SAT between 20-50% and ferritin level between 100-650µg/L received 100mg IV iron polymaltose monthly. Iron studies were measured third monthly and patient's iron requirements were subsequently reviewed.

Results:

CARI guidelines recommend that patient haemoglobin should be >120g/L. The average haemoglobin for 4th Quarter 2004 was 12.02 with 49 % (n=76) meeting CARI Guidelines comparing to 2005 of average haemoglobin 12.28 with 64% (n=113) meeting CARI Guidelines.

The T SAT levels also improved from 49% in 2004 to 71% in 2005 meeting CARI Guidelines, 6 months after the introduction of the maintenance iron policy. Serum ferritin levels improved from 43% in 2004 to 75% in 2005 adherence to CARI Guidelines.

Economic analysis showed significant saving in erythropoietin replacement therapy after the introduction of the maintenance iron policy.

The above results indicated significant success of the implementation of our proactive maintenance policy. Regular independent audits of charts and files have also been conducted to assess the staff adherence to the policy.

Conclusion:

The introduction of a proactive maintenance intravenous iron policy has proven to improve anaemia management targets for our haemodialysis population. To mastery this success, it has to rely on diligent nursing staff reviewing blood results and their adherence to the policy.

In-Centre Nocturnal Haemodialysis Program: The Hampstead Experience: 209

Leo Breugelmans,
Royal Adelaide Hospital, Australia
Alison Napier,
Royal Adelaide Hospital, Australia
Kathy Read,
Royal Adelaide Hospital, Australia
Paul N Bennett,
Flinders University, Australia

Aim:

This paper will describe the development and early results of the Hampstead Dialysis Centre's experience in developing an in-centre nocturnal haemodialysis (NHD) program. The program aimed for patients to dialyse independently at night in the dialysis centre.

Methods:

Planning for the NHD program commenced in 2005. This consisted of stakeholder consultation, market analysis, risk/benefit analysis and cost analysis. The initial risk analysis addressed patient selection criteria, patient training, security, emergency procedures, patient monitoring and infection control.

Results:

Market analysis dictated the conversion of an unused consultation room to a nocturnal room containing two beds one machine. Two beds enabled one other person (partner/friend) to stay with the patient during the treatment. Cost analysis was favourable due to optimising available resources (no staff and increased machine use). In 2007 we commenced a trial of NHD with one patient. The nocturnal regime consists of 8 hours per night, alternate nights (7 dialysis sessions/fortnight).

Conclusion:

The successful development of a NHD program requires careful planning and stakeholder consultation. Early results from our trial are consistent with other promising NHD reports of increased Kt/V, hours on dialysis and improved QoL.

Providing Quality Dialysis Without Considering the Environment Should no Longer be an Option. Save our Planet!: 210

Martine Grant,
North West Dialysis Service, Australia
Deborah Angel,
North West Dialysis Service, Australia

Although there is increasing awareness of preserving the environment in the community, has this attitude and culture translated into a significant change in practices within healthcare organisations? Our vocation in healthcare is to prolong and save lives, but is this at the expense of saving the planet? Are we putting Mother Earth into early Earthopause?

At North West Dialysis Service (NWDS), we acknowledge our environmental responsibilities and are more consciously incorporating this philosophy into our planning strategies as well as day to day practices.

At NWDS metropolitan satellite centres, which provide dialysis treatments for over 200 patients, we have the potential to generate over 78,000kg waste annually. This is reduced significantly with our existing recycling practices, with staff encouraged to separate paper, cardboard and dialysate bottles from general rubbish.

More recently, we have incorporated environmental impact considerations into our dialysis centre planning. Our newest facility, which is six star energy rated, has inclusions of water recycling, conservative air conditioning with an architectural design utilizing natural airflow, optimization of passive solar energy and double glazing for thermal insulation. The water recycling system is extensive, using reject RO water yielding approximately 1800 L/day when the centre is at capacity servicing air-conditioning, toilet flushing and landscape irrigation.

In a time where there is an increased global conscience about supporting our environment, it is not time we asked not what your environment can give to you, but to ask what together we can do for our environment?

Queensland Nephrology Nursing Network (QNNN) - The Successful Integration of Public and Private Senior Renal Nursing Clinicians: 211

Lynne M Abell,
Toowoomba & Darling Downs
Health Service District, Australia
Samantha Tan,
Chermside Dialysis Clinic, Australia

The QNNN was first conceived in 1998 as an avenue for support to new Nurse Unit Managers (NUMs) struggling within a rapidly emerging Renal environment. It comprised of NUMs from 5 Queensland Health Renal Units within the Southern Area Health Service (SAHS). The QNNN today includes 45 Senior Renal Nursing Clinicians throughout Queensland incorporating both public and private health services encompassing all renal specialist modalities.

In the previous 2 years revision of the mission statement and terms of reference have occurred to facilitate promotion of professionalism of the group. This has resulted in the development of formal affiliations with integral healthcare bodies which would not have been possible independently.

Evidence of recent efficacy of the QNNN include:

- Formal endorsement by Queensland Health
- Request for QNNN representation on the Queensland Health Statewide Renal Clinicians Network
- Participation by 7 public and private units in a formal research project sponsored by Queensland Health
- Identification of the need for standardisation of water testing protocols resulting in the development of guidelines and a relevant education package for renal nurses and technicians to be implemented across Queensland upon completion

It is evident that the QNNN has become a recognised professional group of Renal Nursing Clinicians whose participation is sort in major decision making forums including workforce and clinical policy development. More importantly ongoing support is available to members whether their practice be within a private metropolitan or rural and remote renal facility.

Anthony Lucas,
Greater Southern Area Health Service,
Australia

Leanne O'Grady,
Hunter New England Area Health Service,
Australia

Deborah Gratton,
Greater Southern Area Health Service,
Australia

Izabela Pomes,
NSW Statewide Services
Development Branch, Australia

Andrew Booth,
North Coast Area Health Service,
Australia

Megan Parker,
Greater Western Area Health Service,
Australia

Jill Telfer,
Hunter New England Area Health Service,
Australia

Gail O'Brien,
Greater Western Area Health Service,
Australia

Demand for dialysis treatment is growing due to well known factors and therefore demand for services closer to home has increased. Under the NSW Health Rural Health Plan, new dialysis services were established and existing services expanded at a number of sites across NSW.

A rural renal needs analysis was completed in 2004 by NSW Health which identified a lack of standardised on-site training for new staff, limited supportive training, access to local resources and associated technology as barriers to developing skills and knowledge in the area of renal nursing.

A Rural Renal Education and Training Group was established and Project Officer commissioned. The goal was to identify and collate current resources and training material available in order to produce a clinical skills learning package / framework for nurses, and a general orientation package with specific information for allied health professionals.

A broad consultation process involving rural and metropolitan renal nursing representatives and allied health professionals was undertaken in the format of one day workshops reviewing and recommending the resources provided.

This project has produced a clinical resource package for the novice to intermediate nursing staff working in renal dialysis services and a general orientation package for all new staff working in renal services. Plans are under way for the dissemination and implementation of this package and a review of it's effectiveness in addressing the inequalities of access to resources and training.

Ethics in Professional Nursing: Preparing Undergraduates for the Ethical Dimension of Nursing Practice: 213

Glenn Stewart,
University of Sydney, Australia

Jenny Blundell,
University of Sydney, Australia

Judy Lumby,
The College of Nursing, Australia

Introduction:

Employers, patients and colleagues expect new graduates to be responsible, accountable and ethically grounded as they enter and participate in professional nursing life. However the clinical environment presents many challenges and difficulties which leave them feeling threatened, helpless and powerless. In order to prepare new graduates to confront and understand these moral dilemmas it is important to create an appropriate milieu in which creative and ethics focused learning opportunities can be provided.

Methods:

This study investigated the ways in which undergraduate nursing programs reflect the ethical dimensions of nursing practice and prepare students for professional life. Data were collected from four tertiary settings in New South Wales and have been analysed within an educational evaluation framework. Analysis explored the relationships between the instructional system and the learning milieu. Triangulation across data sources provided deeper analysis and interpretation of emerging themes.

Results:

Several themes were revealed including workplace concerns and intra professional relationships. The pressure of work, staff shortages, fatigue and stress are circumstances which prevent new graduates from reflecting on the ethical nature of their practice. Lack of support, trust and respect from peers and colleagues undermine their ability to incorporate ethical knowledge, skills and attributes into clinical practice.

Conclusion:

Responding to the unpredictable, stressful, nature of nursing and building more trusting, respectful working relationships at an organizational level may help new graduates become more confident, feel more supported and enhance both their professional and ethical outlook and delivery of care.

Target 20: A Fresh Approach to Encouraging and Facilitating Ongoing Education in Nephrology Nursing: 214

Peter Sinclair,
John Hunter Hospital, Australia
Kelly Adams,
John Hunter Hospital, Australia

In the current climate of increased service demands we have lost the opportunity and energy for not only keeping up to date with current trends in nephrology nursing but pushing ourselves to explore new opportunities as learners. We recognised the need to develop some educational goals while also generating some enthusiasm about our professional development.

In February 2006, TARGET 20, an initiative adapted from the Sydney Children's Hospital target 40 program was introduced to 31 nephrology ward staff at the John Hunter Hospital. TARGET 20 aimed to improve the number of scheduled in-services and staff attendance patterns by ensuring staff attended 20 hours of education per year. Staff were required to conduct at least one ward in-service in per calendar year in addition to maintaining a log of their educational activities for audit.

We saw a significant improvement in both scheduled inservices and staff attendance from the previous year. We noted, however, that none of our six permanent night staff achieved Target 20; this has provided us with the challenge to develop initiatives to address this finding.

Target 20 has enabled improvements in the ongoing education of staff assisting in supporting the nursing team to achieve educational goals, which ultimately support the delivery of a higher standard of care to our patients. The Target 20 program will be rolled out across the nephrology department in 2007.

Dialysis Patient Flow Coordination: The Emergence of a New Role: 215

Leanne F Avis,
John Hunter Hospital, Australia

The renal services within the Southern Sector of HNEAHS consists of a home haemodialysis and peritoneal training unit, five satellite centres and an acute dialysis and plasmapheresis service.

Increasing numbers of people are being treated for ESRD (ANZDATA, 2006). Over the next 5 years the HNEAHS Southern Sector will be required to expand services to accommodate the predicted growth of 7-8% per annum (Area Brief, 2005)

An internal review of renal services (November 2005 - February 2006) focused on dialysis patient flow across the Southern Sector HNEAHS. The aim of the review was to offer a selection of recommendations to maximise internal efficiencies surrounding work practices and patient flow across the dialysis sites. Additionally, the NSW Renal Planning group has set benchmarks for 50% of patients to receive home dialysis therapies (30% home haemodialysis and 20% peritoneal dialysis) and 50% to receive support dialysis (30% in satellite centres and 20% in acute hospitals). A further objective for HNEAHS was to decrease the burden on the southern sector acute dialysis services.

A Patient Flow Coordinator was appointed in late 2006 to achieve these targets. Outcomes to date have shown a decrease in occupancy in acute dialysis services, improved efficiency of patient movement between facilities and enhanced communication. The main benefit noted is that patients are initiated or facilitated to their chosen modality, while maintaining a person centred approach.

This presentation will consider the benefits of a patient flow coordinator at a patient and service delivery level.

Christine A Bond,
Princess Alexandra Hospital, Australia

Through medical intervention and technology, people are living longer. With the Aged population continuing to grow, we are observing a steady increase in the renal population which is consistent with the renal population growing at a rate of 10% per annum as per ANZ data. This generates increased renal admissions to hospitals each year. Chronic Kidney Disease Clinics, Independent Renal Nurse Practitioners as well as General Practitioners referring to Nephrologists (as per GFR rates) also contribute to the increasing occupied bed days and renal admissions to hospitals each year.

The Renal Rover Nurses Role was developed to combat our 18 bed Renal Inpatient ward's consistent 100% bed occupancy rate with up to 31 outlies daily. The large numbers of renal outlies displayed longer average length of stays and increased complications. Best patient outcomes were proving difficult to manage away from the renal ward. A "Renal Outlie Team" consisting of a Nephrologist, Registrar and Resident closely followed. More beds would fix the problem however, there is a shortage of space.

In order to achieve this, a "time in motion" study was undertaken to determine the number of nursing hours required to attend peritoneal dialysis, prioritise renal patient placement into the renal ward, educate, discharge plan and service the emergency department.

The Renal Rover Nurses Role was developed, funded and implemented to better cater for our growing number of renal outlies. A Clinical nurse covers early shifts and a registered nurse covers late shifts Monday to Friday.

Economic Viability of a Remote Self-Care Haemodialysis Program for Indigenous Communities: 217

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Department of Health and Community
Services, Australia
Dorothy Brown,
Department of Health and Community
Services, Australia

Introduction: In August 2004 the first Aboriginal person commenced home haemodialysis (HHD) on a remote community in the Northern Territory. Prior to 2003, the government resisted supporting a HHD program based on the perceived financial costs of establishing the infrastructure and maintaining dialysis patients in distant communities. Further, inconsistent client attendance suggested that medical transport and acute care costs would rise with a community-based haemodialysis program.

Method: The Government Accounting System captured program expenditure from 2003 to December 2006. This information included establishment and recurrent operational costs not normally attributed to urban HHD programs such as air travel for community consultations and client respite. Treatment attendance, admissions and medical transport activity prior to placement and after placement to December 2006 was examined via the hospital information system. The capital outlay per site was identified separately through the capital works program.

Results: Assessment of recurrent operational expenditure associated with maintaining self-care clients in remote communities was less than maintaining a client in an urban satellite centre. Costs varied from \$26k to \$33k for the full year with expenditure decreasing in subsequent years. Amortisation of capital expenditure significantly increased the yearly costs although it was evident this would decrease in the following years.

Conclusion: A reduction in medically assisted travel, acute admissions and missed treatments in addition to reduced recurrent costs support the delivery and expansion of this program. Capital expenditure is important, however an increase in clients accessing home therapies reduces the demand on urban services and subsequent capital requirements.

Living Donor HLA Antibody and ABO Incompatible Renal Transplant - Progress to Date: 220

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North West Dialysis Service, Australia
Jamie Rutherford,
North West Dialysis Service, Australia
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North West Dialysis Service, Australia

Aim:

To highlight the results of living donor HLA antibody and ABO incompatible renal transplants treated with plasma exchange therapy undertaken by the North West Dialysis Service (NWDS).

Background:

Since 2004, Melbourne Health and NWDS developed a program using plasma exchange to enable kidney transplantation between donors and recipients with either HLA antibodies or ABO incompatibility. These patients attend the program from various regions of Australia creating a large scale service for patients who would otherwise remain on the cadaveric transplant lists.

Method:

The treatment plan is tailored to individual patient needs, dependent on blood antibody titre levels. These levels are lowered by a series of plasma exchange procedures performed on Cobe Spectra equipment. Some cases involve the addition of the Glycosorb column, used for immunoadsorption. Treatments are undertaken both pre and post transplant. Either 4% albumin solution, fresh frozen plasma or a combination of both, are used as replacement solutions. All patients are given infusions of IV Immunoglobulin and immunosuppressant drugs both pre and post transplantation.

Results:

Plasma exchange has been performed on patients with HLA antibodies (n=11) and ABO incompatibility (n=13), 4 patients underwent immunoadsorption and plasma exchange. Of these 24 transplants to date, 23 grafts are still functioning.

Conclusion:

Our evidence supports successful renal transplantation across blood groups and in the presence of antibodies. This ability to facilitate these specialized transplants has enabled patients throughout Australia to receive a kidney rather than remain on cadaveric transplant list and continue to live with the constraints of dialysis.

Kidney Health Australia has 'FAITH' - Family Accommodation Initiative, Transplant Housing: 221

Julie L Edmonds,
Kidney Health Australia, Australia
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Kidney Health Australia, Australia

Living kidney donation is increasing and as kidney transplants are undertaken in city-based hospitals, rural families need to travel and find accommodation for the period of their transplant and treatment.

Kidney Health Australia (KHA) researched living donor issues and found rural families experiencing kidney disease have overwhelming financial pressures. Living donors receive little compensation for travel, accommodation, or loss of income, which can result in family unit breakdown, loss of family home and depression. Lack of suitable accommodation proved the biggest area of need.

KHA then worked with government Departments of Health and Housing to develop a framework and criteria for transplant housing. Likely demand and requirements of accommodation were determined by confirming needs of occupants and interviewing a raft of service providers, former donors and patients, social workers, transplant teams, nurses, housing specialists and community support groups.

In 2006 KHA launched FAITH in Western Australia, providing fully furnished homes for rural living donor families. The homes are the first in a future KHA national roll-out of accommodation for this segment of the community.

FAITH is an exceptional example of outstanding performance and achievement. The program overcomes existing inequities in donor compensation, meets a vital community need and supports rural Australian communities. FAITH is patient focused, sustainable and flexible, whilst demonstrating better use of Government funds - living donors save our government substantial dialysis costs, as well as improve the chances of those still awaiting a kidney.

Stepping into the future, living donors will continue to play a vital role.

The Efficacy of Plasmapheresis in the Treatment of Haemolytic Uraemic Syndrome – A Single Unit's Experience: 222

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Prince of Wales Hospital, Australia
William T Hoswell,
Prince of Wales Hospital, Australia
Mila Garcia,
Prince of Wales Hospital, Australia
Scott Browning,
Prince of Wales Hospital, Australia
Annette Jones,
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Shamol Barrett,
Prince of Wales Hospital, Australia
Michaela M Kelleher,
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Haemolytic uraemic syndrome (HUS) is characterised by the triad of microangiopathic haemolytic anaemia, thrombocytopenia (often with purpura) with a varying degree of renal impairment. The occlusion of arteries and arterioles by platelet and fibrin thrombi play a central role in the clinical manifestations of both HUS and thrombotic thrombocytopenia purpura (TTP).

Although many causes of HUS are idiopathic, there are a variety of underlying causes which have been identified such as the presence of a verocytotoxin released from E. Coli, pharmacological agents and the presence of lupus anticoagulant. The aim of treatment is to reverse the isolated platelet consumption that is responsible for ischaemic necrosis and bleeding. This can be achieved by reversing the underlying cause of platelet consumption. There is evidence that plasmapheresis is a useful adjunct to conventional therapy in the treatment of HUS / TTP.

It is the purpose of this presentation to present a 5 year retrospective analysis of patients who have developed HUS and been treated with plasmapheresis. Factors which will be explored include clinical presentation, diagnosis, treatment and long term outcome.

Home Haemodialysis Training Gets a New Look!: 223

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Sydney Dialysis Centre, Australia
A Blogg,
Sydney Dialysis Centre, Australia
F Garakhan,
Sydney Dialysis Centre, Australia
C Liu,
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In training around 30 patients annually, Sydney Dialysis Centre (SDC) has recognized that its Home Training Program must to be tailored to accommodate a variety of needs. Factors such as educational skills, language issues and different learning styles within the patient population must be taken into account. Simplicity in the process is essential. SDC has responded to a number of identified needs that were revealed in feedback from patients and staff. The training manual used previously was structured in a checklist format with few visual aids.

The nursing staff have developed a Home Haemodialysis Training Program based on adult learning principles. This new look program aims to make full use of the range of available audio visual technology with a focus on minimizing the use of text and incorporating a more visual component, using digital photographs and computer projection. Included in this package is visually accessible material which is comprised of a booklet of machine set-up notes, a quick reference "cause and effect" trouble-shooting guide and a photographic procedure guide. These resources have been introduced into the training program with the aim of facilitating independent learning.

Several evaluations conducted since the inception of this program, along with anecdotal evidence, show that the material has been readily accepted by patients and staff. Results have been encouraging, with an increase in patient through-put along with a decrease in training time.

This paper will present an overview of the components of the education package which has become integral to the home training program.

Progression of Chronic Kidney Disease to End Stage Renal Failure; Who is at Risk?: 224

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Jane York,
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Murty Mantha,
Cairns Base Hospital, Australia
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Preparation and education for patients with chronic kidney disease (CKD) is recognised as an important component of smooth transition to dialysis therapy. Nurses play a vital role, which is evident by the establishment of dedicated 'CKD', 'Pre dialysis' and 'Access' positions in renal units throughout Australia. The aim of our retrospective analysis of RAM data was to evaluate the influence of factors which could identify those who were at increased risk of accelerated progression to dialysis.

Method: Data from the 'Pre Dialysis' population of the RAM database were analysed from entry to time of beginning dialysis. Population was stratified at entry by stages of kidney disease (KHA) using calculated GFR, and had to remain as pre dialysis for at least 12 months with a minimum of 3 post entry data events. Relationships explored were baseline GFR stage, race, diabetes and mean haemoglobin classified as either higher (>120g/L) or lower (100 to <120g/L). Time to dialysis was analysed using Cox's proportional hazards modelling.

Results: GFR stage was significantly related to time to dialysis ($p<0.001$), as was Aboriginal and Torres Strait Islander race ($p<0.001$), diabetes ($p=0.02$) and lower haemoglobin classification ($p<0.0001$).

Discussion will include identification of factors that place patients at risk of accelerated progression, as this population may require prioritisation and earlier preparation for dialysis. Early education strongly influences treatment choice and outcomes. Identification of 'at risk' patients also allows earlier referral to multidisciplinary renal units, which can retard progression of renal disease by timely and appropriate intervention.

Chronic Kidney Disease; Have we Shaken the World or Merely Stirred Up the Pot?: 225

Barbara Harvie,
The Canberra Hospital, Australia
Leanne Brown,
Hervey Bay Hospital, Australia

Chronic Kidney Disease (CKD) has been identified as a public health problem worldwide. It is estimated that over one million Australians have CKD stages 3-5, with many being asymptomatic and not knowing that they have CKD. Strategies employed by Kidney Health Australia (KHA) to address CKD primarily at the health professional level include raised awareness, health promotion, GP and practice nurse education and targeted screening.

A significant impact on nephrology resources within public hospitals has been the introduction of eGFR reporting, with a marked increase in referrals to all of the 170 nephrologists across Australia. One strategy already implemented to optimise the workforce capacity has been to expand nursing roles to include Anaemia Coordinator and Access Coordinator. The innovative role of CKD Nurse Practitioner (NP) has been taken up strongly in Queensland, with other states developing both CKD Nurse Coordinator and NP roles. It is important that CKD nurses speak with one voice, and provide consistency of quality care and management to ensure the best patient outcomes.

Questions that nurses need to consider are:

- When does CKD management evolve to become predialysis management?
- What health professionals should be responsible for providing 'predialysis' information about kidney disease? Are we using the right language?
- How are we ensuring the provision of unbiased CKD information?
- How do nurses integrate their role to align with the KHA strategy areas?
- How do we develop measurable outcomes?
- Where does the discussion about advance health directives fit within CKD education?

Lesley Salem,
Lower Hunter New England Health Service,
Australia
Barbara Harvie,
ACT Health, Australia

Over the last three years, there has been an explosion of Nurse Practitioner (NP) and Transitional NP roles in Chronic Kidney Disease (CKD) as a strategy to optimise patient outcomes, linking strongly with the nephrologists. Within NSW, the NP roles have become well established. One major component for NPs to be fully functioning in their roles is the development and approval of clinical practice guidelines (or health management plans). It appears that no other health professional has been so scrutinised, especially when one considers that it is no mean feat to progress towards being an NP.

There have been a number of guidelines already approved in NSW, however each one is applicable to an individual local area health service. The development of the CKD and ESKD guidelines was collaborative, and it was anticipated that with minimal changes, approval would be less onerous for the next NP candidate.

What a fascinating journey! The approved CKD guideline draws from CARI's evidence base, and is neither procedure-driven nor does it resemble standing orders. The decision to formulate guidelines outside this structure was purposeful, to illustrate the clinical decision-making of the NP. In order to progress with guideline approval in a new health service, a consultative group was formed and provided with the approved version. Within the formulary section alone, early recommendations include 'deletion of ACE inhibitors with thiazides', and 'expand antimicrobials'. Understandably, the overwhelming concern is for safety: safety of the patient and of the service provided.

The Chronic Kidney Disease Clinic - A New Model of Care and a New Role for Nurses: 227

Barbara Harvie,
The Canberra Hospital, Australia
Leanne Brown,
Hervey Bay Hospital, Australia

Princess Alexandra Hospital is the Queensland pilot site for a multidisciplinary Chronic Kidney Disease (CKD) clinic. This clinic opened in April 2006 and has created a new model of patient care, and also a new role for nurses. The model of care is a multidisciplinary team (MDT) approach involving Medical and Nursing staff, Dietician, Diabetes Educator, Pharmacist and Social Worker. The MDT works collaboratively to achieve evidence based treatment targets and manage risk factors for progression of CKD. The goals of care are to delay the need for dialysis and/or transplantation, to prevent and treat the complications of kidney disease, and to prepare the patient for kidney replacement therapy, if required.

The nursing role involves providing support and education to develop each patient's self management skills so they can take a central role in treatment decisions, and participate in the creation of an individual health care plan. The nurse then co-ordinates the MDT to achieve individual patient treatment targets according to priority.

This new role will be illustrated by outlining case studies of two patients who attend the clinic, following their progress from the initial CKD Clinic assessment to the present time.

Evaluation and monitoring of clinical outcomes will indicate if we are able to demonstrate improvements in the health and welfare of patients with CKD. This is an important aspect of the clinic and will influence future decision making for Queensland Health.

Central Venous Catheters - A Permanent Fixture on the Dialysis Access Landscape: 303

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Austin Health, Australia
Mechelle K Seneviratne,
Southern Health, Australia
Jayne C Amy,
Melbourne Health, Australia
Monica L Schoch,
Barwon Health, Australia
Sadie Jaeschke,
St Vincent's Health, Australia

Introduction:

The Renal Access Nurses – Victoria (RAN-Vic) group was formed in mid 2006. This study, undertaken by RAN-Vic, is to identify reasons why some patients start their first haemodialysis (HD) with temporary vascular access, either tunneled / non-tunneled central venous catheter (CVC). Data was collected from five represented hospitals to classify reasons why patients commenced their initial haemodialysis treatment with a CVC.

Results:

Interim data collected shows that the collective percentage of patients commencing initial HD with a CVC is 53.7%, (46.3% with AVF; 0% with AVG). Those patients classified as acute renal failure were excluded from the calculations. These results were compared with the ANZDATA 2005 (Victorian figures): 56% started with CVC and 44% AVF or AVG. ANZDATA (2005) lists late referral as the main reason for CVC insertion for initial HD. 91% of late referrals, required CVC's, compared with 52% of early referrals. Our results dispute this trend. The main reasons for starting HD with a CVC were: Acute on Chronic Renal Failure; known CKD (pre-dialysis patient) without access or with unusable access; & change of modality from PD. Late presentation and patient denial showed smaller percentages of patients. Strategies to minimize CVC use will be discussed.

Conclusion:

There is scope to for improvement and the timely referral for some of patients to surgical services for dialysis access creation. RAN-Vic is committed to developing strategies within individual units to improve the percentage of patients commencing first haemodialysis with a permanent vascular access.

Incentre Access Buttonholing - A Positive Regional Satellite Experience: 304

Anna M Flynn,
Bendigo Health Dialysis Unit, Australia
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Bendigo Health Dialysis Unit, Australia

Haemodialysis nurses are frequently required to cannulate difficult fistulas. These challenges are compounded in the regional setting with little opportunity for timely vascular management and limited staff experience. Frustration for clients and staff is magnified if there is no obvious or urgent fistula problem identified at the parent hospital.

This issue and a chance to increase client self care, Bendigo embarked on a program of incentre buttonhole (constant site) cannulation. This cannulation method has been in use in Europe for many decades.

Aims of buttonhole program

- Reduce stress and trauma associated with cannulation problems for both clients and staff
- Decrease incidence of avoidable access related transfers
- Promote increased self care and cannulation thereby encouraging home haemodialysis. Buttonholing commenced in Bendigo 2004, 15 clients buttonholed todate.

Findings are.....

- Decrease in client and staff anxiety
- Decrease in access cannulation issues requiring transfer to metropolitan parent hospitals
- Increased client satisfaction
- Increase in client autonomy

Bendigo has found, contrary to non evidence based suggestion, no increase in fistula infection and thrombosis rate with buttonholing.

Incentre buttonholing is a viable cannulation method for difficult and or short fistulas, it also promotes greater client self care. Establishment of buttonholes is unlikely to be suitable or possible in the Acute Central Dialysis Unit setting. It could be a consideration for satellite units. It is appropriate for all haemodialysis nurses to be aware of the principals and correct method for buttonholing in preparation for support and management of a buttonhole client.

Conquering Catheter Related Bacteremia With a Gentamicin and Heparin Lock: 305

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Shelley Tranter,
St George Hospital, Australia

Catheter related bacteremia (CRB) is a serious complication in haemodialysis patients resulting in morbidity and mortality. Prevention of CRB is a priority in the management of haemodialysis catheters and although strict aseptic techniques are performed during insertion and access, infection remains a problem in our unit.

Recent literature has indicated the use of an antibiotic/heparin lock to successfully reduce CRB in haemodialysis catheters. Hence, in January 2006 a prophylactic gentamicin and heparin lock protocol was implemented to reduce CRB rates in our haemodialysis unit. The lock consists of gentamicin 5mg/ml and heparin sodium 5,000units/ml. The gentamicin/heparin lock was instilled in all tunneled cuffed catheters after each catheter was accessed from the time of insertion till removal. Seventy five tunneled cuffed catheters were inserted in our unit.

As a result of the gentamicin/heparin lock the rate of CRB in tunneled cuffed catheters reduced to 7% (0.6/1000 catheter days) in 2006 compared to 36% (3.3/1000 catheter days) in 2005. Additionally the rate of exit site infections also reduced from 20% (1.8/1000 catheter days) in 2005 to 8% (0.8/1000 catheter days) in 2006. Random serum gentamicin levels were performed throughout the year to assess the risk of gentamicin toxicity with all results <0.5mg/L indicating no toxicity. Furthermore, less hospital admissions occurred from haemodialysis related infections consequently reducing the rate of morbidity and mortality.

As a result of this success in reducing CRB, instilling a gentamicin/heparin lock is now considered routine practice with all haemodialysis catheters at the St George Hospital Haemodialysis Unit.

A New Direction in Vascular Access Surveillance: 306

Monica L Schoch,
Barwon Health, Australia

In January 2006 a Transonic Flow Qc HDO2 Ultrasound Dilution Monitor was purchased, primarily to monitor access flow and recirculation in arteriovenous fistulae (AVF) of our haemodialysis patients. A bi-monthly monitoring program tested all facility-based patients. 82 patients were assessed for access flow and recirculation between February and December 2006. 18 (22%) had poor AVF function, 13 with access flows <500ml/minute on initial testing and 5 with an access flow decreasing >25% over a four months. Some of the 18 did not have any other indicators of poor AVF function such as a high venous pressure, needling difficulties or a poor 'adequacy' assessment (PRU). Of the 18 patients detected to have poor access function, 2 died within one month of measurement while 5 were too frail to attempt corrective surgery, thus no radiology was ordered. The remaining 11 proceeded to ultrasound or fistulography. A >50% stenosis was detected in all 11 cases. Of these, 4 had successful vein patch surgery and one had PTFE graft inserted, with marked improvement in access flow. One had failed vein patch surgery requiring creation of a femoral AVF, one patient required cvc insertion, now awaiting AVF, and one had failed stenting requiring a permanent cvc. 3 died before corrective surgery occurred. In summary, 5 (6%) of the 82 patients that had access flow issues, after further imaging investigation, led to successful correction. We believe the Transonic is a useful adjunct to routine AVF surveillance and recommend its wider use in Australian dialysis services.

Vascular Access Flow Measurement: Early Intervention Through Early Detection: 307

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South Sydney West Area Health Service,
Australia

Maria Li Donni,
South Sydney West Area Health Service,
Australia

Noemir Gonzalez,
South Sydney West Area Health Service,
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Imelda De Guzman,
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Michelle Mak,
South Sydney West Area Health Service,
Australia

Maintaining an adequate permanent vascular access remains to be the biggest hurdle amongst haemodialysis population. CARI & KDOQI guidelines recommend that dialysis facilities employ regular access monitoring and surveillance.

The aim of the project is to determine the effectiveness of using on-line access flow measurement –thermodilution method (Fresenius BTM™), in detecting and predicting thrombosis or stenosis of the fistula, so that early intervention could be instituted.

All haemodialysis patients with permanent vascular access, i.e. arteriovenous fistula/graft, in a large tertiary referral renal service, were included in this prospective observational quality project, conducted over 12 months (January-December 2006). All data were entered to Fresenius Vascular Access Flow Database – VA Monitor™. Results were then collated and compared from each measurement.

Out of 165 patients studied, 36 patients were found to have poor access flow, defined as: AVF – flow of <200ml/min; AVG – flow of <600ml/min or a decreased of 25% from last measurement. Doppler ultrasounds were performed, and confirmed findings of significant stenosis, either on the arterial or venous sites, as indicated by poor access flow results.

Thermodilution technique is a reliable method of detecting poor vascular access flow. Although detecting poor access flows did not immediately result in surgical intervention, early detection has significantly improved the efficiency of the coordination of care. The project has also made the renal team aware that recirculation is a late predictor of access thrombosis. Access flow measurement is now an integral part of our renal service's access monitoring and surveillance.

Haemoglobin Variability - Looking at the Evidence: 308

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Wollongong Hospital, Australia

Pauline Byrne,
Wollongong Hospital, Australia

Emma Taylor,
Royal Melbourne Hospital, Australia

Observing haemoglobin levels in patients receiving erythropoietin-stimulating agents (ESA's) are subject to fluctuations. A recent study suggests that the haemoglobin levels of up to 90% of patients are in some degree of flux and such fluctuations are associated with clinical complications. The aim of this study was to identify factors that may have a relationship with haemoglobin variability. All patients in the RAM database treated with either epoetin alfa or darbepoetin alfa for the period 2001-2004 had their records extracted (4829 patients). An analysis of variance was performed on within-patient variance in haemoglobin levels. The analysis examined factors such as sex, weight class (males <75 kg or ≥75 kg, females <60 kg or ≥60 kg), age and erythropoietin therapy. The findings were within patient variance for: females was 10% higher than in males (95%CI: 5%, 15%), low weight patients was 13% higher than in high weight patients (95%CI: 8%, 18%) and darbepoetin patients was 13% higher than epoetin patients (95%CI: 7%, 19%). Age was shown to reduce haemoglobin variance at a rate of approximately 10% per decade. These results suggest that identifying patients with factors predictive for haemoglobin fluctuations and the potentially related complications. Therefore it may be possible to develop tailored treatment regimes for patients with such risk factors. As there is little we can do about the factors that the patient brings with them, can the choice of ESA and Hb management strategy play a role in improving the treatment outcomes? Further research is required.

Beverley A Hiles,
Lismore Base Hospital, Australia

Anaemia is a frequent complication during the first 3 months post transplant, but is considered more uncommon in the late post transplant period, therefore receives less attention than anaemia in chronic kidney disease and dialysis populations.

Records for transplant patients 2004 - 2005 were extracted from the Renal Anaemia Management (RAM) database. Anaemia was defined as Hb

<130g/L for males and <120g/L for females. At the time of first record as transplant status in the RAM database, 76.2% of patients were anaemic (95%CI=73.3-79.2%). 800 patients had their anaemic status recorded at time of first entry as transplant recipient. 53.7% (328/610) of patients with anaemia were on an erythropoietic stimulating agent (ESA) at time of transplant. Of the patients not receiving an ESA, 71.9% were anaemic (282/392). Patient records were examined for anaemia status at the time of first record for transplant, 3, 6 and 12 months. The ratio of non anaemic/anaemic patients remained relatively constant throughout the 12 month period. At 12 months, 80% of patients with completed records were observed to be anaemic (90/112).

The high percentage of anaemic patients at 12 months is concerning as cardio-vascular events are known to be the main cause of death in transplant recipients. Presence of anaemia at 3 months is one predictor of 12 month post transplant anaemia (PTA) and therefore its persistence beyond 3 months should be addressed. PTA appears to be an under-recognized problem in the Australian transplant population, many of whom are not receiving adequate anaemia investigation and treatment.

Stepping into the Future Now: Shifting to a Proactive Care Paradigm: 310

Casey Light,
Armada Health Service, Australia

Renal nurses are frontline patient care providers. They possess expert skills in machine technology and vast knowledge in nephrology nursing. However, traditionally the care model is a reactive one. Awaiting or following medical instructions for care plans changes appears to be the common practice. It is time to step into the future NOW to shift the care paradigm to a proactive approach in bringing renal nursing care to a new height.

Management of patients with chronic kidney disease is complex involving a myriad of complications and comorbidities associated with the disease. Taking steps to prevent the decline of haemoglobin levels with the effective use of iron and erythropoiesis stimulating agents (ESA); recognising early signs and providing timely interventions to ESA hyporesponsiveness and iron deficiency. Aggressive proactive approaches in the management of calcium, phosphate (thus the Calcium Phosphate Product) and parathyroid hormone (PTH) are vital in the prevention of cardiovascular complications, cardiac valve calcifications, soft tissue calcification, calcific uremic arteriopathy, renal osteodystrophy, secondary hyperparathyroidism (SHPT) and endocrine disturbances which in turn has an effect on ESA response.

This presentation will discuss the strategies in proactive nurse led renal anaemia and SHPT management. The trial outcomes of renal experts reviewed clinical protocols compiled by the renal nurse practitioner will be revealed demonstrating the effective use of ESA coupling with iron therapy resulting in a reduction use of Eprex from 1.4 million units/month to 800,000 units/month, as well as improvements in achieving CARL guidelines targets in the management of calcium, phosphate, PTH imbalances.

Tony Ryan,
The Alfred Hospital, Australia

With the ever increasing demands on health facilities, the importance of relocating healthcare away from hospitals and into the community is not only an economic imperative but also a patient focused activity.

During 2004 a review of the peritoneal dialysis population at The Alfred Hospital highlighted a number of areas which we felt could be improved. With an increase in the average patient age and a decrease in family supports patients needed an increasing level of support from the parent unit. A group of senior nurses, doctors and allied health representatives began discussing our practices for the management of peritoneal dialysis patients.

Historically, patients were required to travel to the hospital regularly to see the P.D. nurse and the nephrologist. This created problems both for the clinic and more importantly for the patients, who increasingly failed to arrive for their clinic visits. In line with the hospitals stated values, we decided to look at this from the patient's perspective. The result has been that we now take the clinic to the patients.

Once each month the P.D. nurse holds a clinic some 100 kms from the hospital, on the Mornington Peninsula. The patients can also see a Nephrologist and if required, a dietician. The success of this change is that patients are seen more regularly, do not have to travel as far and have better dialysis monitoring. With plans to further expand this service we feel we are taking the first steps into the future of better patient management.

APD Community Support Program; Using the Help of the RDNS to keep "Inappropriate" Patients at Home on PD: 312

Belinda S Simon,
Alfred Hospital, Australia

The program was established to offer a home based dialysis option to patients who had been previously assessed as not appropriate for PD.

The majority of our elderly patients are living on the Mornington Peninsula so it was decided that this target population would be perfect to pilot this new program.

By utilising an organisation already established to provide care in the home, we went about training the RDNS nurses to perform peritoneal dialysis.

Once the program began, there were initial difficulties including numerous phone calls from the RDNS staff requiring advice and reassurance. This was a time consuming and frustrating time but with perservance, the staff became more experienced and the problems reduced. Within months we had 2 patients on the program and all was going well.

Due to the fact that the RDNS is a service limited by geographical boundaries, we soon established that most of our potential patients lived outside the area. This in turn limited our ability to offer these patients this useful service. Therefore, numbers have not increased.

We are now looking into expanding the program into the bordering council's jurisdiction - an area where a large percentage of our patients are currently living. This is work in progress.

Hydrothorax; A Rare Complication of Peritoneal Dialysis: 313

Michaela M Kelleher,
Prince of Wales Hospital, Australia

The commonest complications observed in peritoneal dialysis patients are peritonitis and exit site infections. However, the majority of the other complications occurring in this group of patients are related to an elevation in intraabdominal pressure following the instillation of dialysate into the peritoneal cavity. Following the instillation of two litres of dialysate the intraabdominal pressure may increase from 0.5 – 2.2 cm H₂O to as high as 10 cm H₂O. If there are weaknesses present in either the abdominal wall or the support structures of the diaphragm, then a leakage of peritoneal dialysis fluid may occur through the weakened area.

Patients on peritoneal dialysis often develop small, chronic pleural effusions secondary to an increased movement of fluid from the peritoneal to the pleural spaces via the diaphragmatic lymphatics. Hydrothorax, on the other hand, is the accumulation of a large volume of dialysate in the pleural cavity, which may result in cardiovascular instability and collapse. The incidence of hydrothorax varies from 1.6 – 10%, is more commonly seen in females and the diaphragmatic anatomic defects occur more commonly on the right side, thus explaining the right sided predominance of this entity. It is the purpose of this paper to discuss the cases of three patients who developed hydrothorax, the clinical presentation, diagnosis, treatment and outcome for each of these patients.

Peritoneoscope Down Under: 314

Kate M Kendall,
Cairns Base Hospital, Australia
Janet D Hole,
Cairns Base Hospital, Australia

In the early 2000's patient numbers within the incentre haemodialysis facility of Far North Queensland exploded, resulting in the necessity to steer patients towards a Home Therapy. The Peritoneal Dialysis Unit was experiencing extreme frustration and difficulties obtaining theatre time, a surgeon and of course the ever elusive Hospital bed to enable Tenckhoff catheter insertion.

Our Nephrologist took charge and explored the idea of Peritoneoscopic Tenckhoff insertion. He learnt the technique along with one of the PD nursing staff as his assistant.

So far, we have performed over one hundred catheter insertions using this method and we can now easily plan insertion dates without fear of cancellation. We perform the procedure within the unit and are fortunate to have a newly acquired designated recovery area.

Multiple benefits of the procedure will be explored and discussed along with the ongoing perfecting of the procedural technique.

To date we are still only one of two centres Australia wide performing this technique, despite the obvious benefits.

So yet another skill to add to the Nephrology Nurses bow - Scrub Nurse!

The “Silver Service” Renal Palliative Care Service: 315

Christine A Bond,
Princess Alexandra Hospital, Australia

Our Renal Inpatient ward was having difficulties placing our renal palliative care patients upon discharge. All appropriate facilities were 100% occupied and had waiting lists. We found few organizations that provided a specific Renal Palliative Care Service and we encountered problems when utilizing the General Palliative Care Team resources, because often our renal patients did not meet the General Palliative Care Teams Criteria.

Our renal inpatient ward aims to enable patient's to pass away with dignity, comfort and respect, surrounded by their loved ones.

Ward 4B Renal's goal was to provide a “Silver Service” Renal Palliative Care Service which was tailored specifically to meet the needs of our growing Renal Population.

We achieved this through surveys completed by patients and families on “how can we do this better”?

We achieved this through a few provisions e.g. Fold up bed and single room facilities. Daily visits by Ward Round continued as normal. Our ward developed modern Renal Specific Palliative Care Plans and created Renal Specific Palliative Care information brochures. The Renal Inpatient ward promoted and respected:

- Patient's Advanced Health Directives
- Cultural beliefs
- The presence and support of family and friends

Feedback is always positive. It is expressed through written letters, cards, gifts and verbal appreciation for making this service available to them.

Through providing this “Silver Service” Renal Palliative Service, our renal inpatient ward maintains a modern and progressive approach to supporting patients and families. This difficult process has been directly formulated by evidence based practice.

Advanced Care Planning for Dialysis Patients - A Rural Dialysis Unit Experience: 316

Kathleen ME McNamara,
Prince of Wales Hospital
Randwick NSW, Australia
Anna M Lee,
Prince of Wales Hospital, Australia

The largest growth in new patients starting dialysis is in the 75-85 year age group (ANZDATA 2006). Elderly patients commencing dialysis are more likely to have other co morbidities. Some will choose not to commence dialysis, even though medically, it is perceived a good quality of life can be achieved. Patients who choose active treatment, continue on dialysis but deteriorate due to the natural ageing process. Once on dialysis, withdrawal from treatment is the cause of 26% of deaths in the dialysis population and this is largely in the older age group. (ANZDATA 2006)

This presentation will discuss two cases. Patient 1 made the decision not to start dialysis. Medically, it was thought that dialysis treatment would maintain a good quality of life, however, the patient's wishes were respected. Patient 2 was on dialysis. He had many coexisting conditions including heart disease, bowel cancer and progressive dementia, which meant that the patient was unable to cooperate in therapy and decision making.

These case studies will highlight the ethical and legal difficulties faced by all parties involved. Nursing and medical staff can find it very difficult both professionally and emotionally, when a patient chooses not to accept treatment. However, they face very different issues when decisions are made without patient input and where family and friends are not in agreement. In the worst case scenario, end of life decisions are the decisions of the courts.

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Poster Presentations

Graduate Nurse Renal Rotation Program - Our First Year: 251

Angela F Henson,
Princess Alexandra Hospital, Australia

Individual hospitals review and revise graduate and educational programs on a regular basis. As a concept nursing rotational programs have often been instigated as a way of improving knowledge and skills, providing developmental opportunities, as a recruitment and retention strategy and to facilitate a flexible workforce. Many hospitals have attempted rotational programs, with varying degrees of success. Key factors for success include the attitudes of other nurses, the outlining of job descriptions and the degree of direction given by other staff. With adequate support, rotational programs have been shown improved work relationships, whilst providing stimulating and motivating networking opportunities.

Nurses participating in a rotational program need 'thorough' preparation and support to maximise their development. Planning of the program requires commitment from all nurses in the department, administrators, managers, staff nurses, preceptors and graduates. A rotational program, consisting of 3 month placements within the Renal Inpatient Ward, Haemodialysis and Peritoneal Dialysis Units, endeavours to provide initial clinical skills and knowledge in each of these areas. This poster highlights the planning involved and strategies implemented to commence a rotational program. The format for educational days and clinical support required to implement such an initiative will be discussed in order to promote and support others to attempt a similar program.

Angela F Henson,
Princess Alexandra Hospital, Australia

The shortage of nurses particularly in specialty fields such as renal, has necessitated that nursing recruitment and retention become a key focus. There is a need to attract nurses to the renal area, and positively promote the variety of opportunities that are available to nurses. It is commonly acknowledged that nursing students are often unaware of the vast array of positions and scope of practice that is available to them. Renal Units are having to explore ways to promote the positive aspects of working in renal, and actively develop strategies to attract nurses. This poster endeavours to address some of the attributes of renal nursing as a defined career pathway, whether as a graduate or experienced nurse looking for a change in focus.

Focus areas should include:

- (1) What skills do you need to be a renal nurse?
- (2) Outlining what is involved in renal nursing?
- (3) Examining what a career in renal means
- (4) Discussing why nurses should move to a specialty area, and
- (5) Listing training and development opportunities.

Additionally this tool will be utilised as a career promotion strategy at hospital and university open-days and at public displays to promote and encourage the many and varied roles that renal nurses practice in. By examining the key personal attributes required, the skill mix, and the challenging, continuing patient relationships, nurses from varying levels can view the diversity of roles, and thereby identify elements that will assist them in considering Renal Nursing as a career option.

How are we going to meet the Escalating Demand for Dialysis Treatments in the Northern Territory Past 2007?: 253

Pamela A Wood,
NT Renal Services, Australia
Kerry A Dole,
Australia
Claire L Doughty,
Australia

The incidence of renal disease in the Northern Territory (NT) is significantly higher than anywhere else in Australia. Statistics indicate the Northern Territory currently has 390 clients per million compared to the national average of 109 clients per million. The demand for dialysis treatments is growing at a rate of 10-12% per annum, with recent projections indicating there will be over 5700 treatments a month in the Territory by 2010. This is equivalent to 475 clients per million.

More than 85% of renal clients receiving renal replacement therapy in the Northern Territory are Indigenous and 75% of these originate from a remote community. Haemodialysis is currently the most common form of treatment in the Territory as other options are problematic. Mortality rates are dropping due to increasing improvements in health care and continuing improvement in renal care therefore life expectancies are increasing. Of course this is the outcome we are all working towards, however the Northern Territory's six main haemodialysis centres are already at or near capacity with little ability to absorb the predicted growth. The impact of this situation is already being felt on a regular basis. The combination of not enough haemodialysis spots available or inadequate staffing numbers to carryout treatment is a dilemma being faced daily.

So the questions posed are: how do we cope on a day-to-day basis now and how are we going to provide the services needed in the very near future?

Bridging the Gap: Educating Nursing Staff in Managing the Renal Inpatient: 254

Justine M Bruggemann,
Toowoomba and Darling Downs
Health Service District, Australia

The incidence of Renal Failure is growing at a rate of more than 10% per year. This has led to an increasing number of patients being admitted to hospital, identifying a number of issues in relation to the care of a renal inpatient. It was identified that a knowledge deficit existed amongst ward staff in relation to:

- Caring for patients with chronic renal failure,
- Issues relating to access
- Holistic management of a patient receiving renal replacement therapy, especially patients receiving peritoneal dialysis.

Contributing factors include:

- A high turnover of staff in the Renal Ward, leaving limited knowledge and skills required to care for the renal inpatient.
- A high ratio of newly Registered Nursing Officers with limited Nursing experience.
- A growing interdepartmental conflict between the renal unit and the medical unit.

These factors combined, complicated and added pressure to Nursing Staff working in the Medical Unit, as they were the referral centre for peritoneal dialysis after hours, due to the Renal Unit staff being on-call for acute haemodialysis only.

The Toowoomba Renal Unit implemented a 5 day competency based program to overcome the identified issues. This program aims to provide Registered and Enrolled Nurses the necessary knowledge and skills to adequately care for the renal inpatient. The implementation of this program has created a better working environment between ward staff and the renal unit, allowing a more conducive partnership in managing the renal inpatient.

Heading into the Twilight Zone... : 255

Annette C Bezzant,
Southern Health, Australia
Ruth M Healy,
Southern Health, Australia
Graeme K Pickering,
Southern Health, Australia

As we move forward in the treatment of chronic kidney disease, health professionals need to recognise opportunities to assist patients integrate chronic illness into their lives. In March 2006, responding to expressed patient preferences, the Cranbourne Haemodialysis Unit commenced the planning, implementation and development of a third / twilight shift. We look at the trials, tribulations and outcomes of this strategy.

Living with a chronic illness creates many physical, psychological, social and economic stressors. Offering only morning and afternoon haemodialysis shifts may impede the patient who wants or needs to return to work. Increasing the range of times available for haemodialysis provides some empowerment. With a view to promoting patient satisfaction, the Nurse Unit Manager of the Cranbourne Haemodialysis Unit, a satellite of Southern Health, identified the need to offer expanded services to renal patients. In 2006, the option of dialysing in the evening at Cranbourne was offered to stage five chronic kidney disease patients who met certain criteria.

After some adjustments and a settling-in period this new evening or 'twilight' shift has proven successful. One year on, we review the twilight shift, assessing patient satisfaction and other issues pertaining to the operation of this shift. We also consider how satellite units may expand treatment options in the future.

The increase in chronic kidney disease and its treatment is a challenge for all renal health professionals. Cranbourne's 'shift into the twilight zone' has touched on one aspect of living with chronic kidney disease...

What lies beyond?

How to Make your New Renal Ward Peritoneal Dialysis Experts in 6 Months: 256

Emmet O'Flaherty,
St Vincent's Health Melbourne,
Australia
Julia Shao,
St Vincent's Health Melbourne,
Australia
Megan Kimpton,
St Vincent's Health Melbourne,
Australia
Judy Foster,
St Vincent's Health Melbourne,
Australia

In October 2006, at St Vincent's Hospital Melbourne a swap of ward specialties was made. Renal nurses virtually overnight became general medicine nurses, general medicine nurses became renal nurses and the patient's clinical needs remained unchanged. This poster details the education process that took place to ensure patient care was not compromised by the re-aggregation of nursing staff and will examine the hurdles we encountered along the way.

With the use of a pre existing learning package, a peritoneal dialysis competency, group and one on one education, twenty eight nurses were to become peritoneal dialysis basic practitioners (e.g. able to perform a continuous ambulatory peritoneal dialysis exchange on multiple systems safely) within three months. Within a six month period they were to become peritoneal dialysis experts (e.g. able to safely perform automated peritoneal dialysis).

We found that by using a variety of education tools and assessing the effectiveness of these tools we were able to maintain staff interest and enthusiasm for peritoneal dialysis patient care. There were unseen hurdles that slowed achieving our objectives, for example, graduate nurse turnover, but there were many surprising resources that kept the momentum going, for example, 'outside education sources'.

This poster will present our experience, detailing education tools used, a time line and feedback form the 'new' peritoneal dialysis nurses and patients who received their care.

Does Structured Patient Education Increase Awareness and Understanding in End Stage Renal Disease (ESRD) and Improve Compliance with Treatment Regimens?: 257

Janet Gobener,
Royal Perth Hospital
and **Edith Cowan**
University, Australia

The study explored the relationship between education; compliance with a treatment program and clinical outcomes in the patient with ESRD receiving haemodialysis. The study sample (n=51) was randomised to either the intervention group or control group. The intervention group were participants in a newly developed structured education program conducted over a four -week period. The control group received their normal standard therapy.

The Hypothesis tested was: End stage renal failure patients on dialysis who have received directed patient education are more compliant with prescribed treatment regimens than those patients who have not received directed education.

The primary measure of compliance was interdialytic fluid gain; data was collected from the patients' dialysis records. Prior to the education program a Kidney Disease Questionnaire was administered to assess baseline knowledge. The percentage change in knowledge score post education program was also recorded.

Patients were more interactive in their treatment program; the results showed that fluid gains in the intervention groups improved by 45% in relation to a 90% improvement in knowledge. There was a 17% improvement in fluid gains in the control group with a 67% improvement in knowledge.

Whilst the study sample was small the results were encouraging; the effect of education on compliance was shown in the clinical outcomes, specifically improved fluid gains. Recommendations have been made with regard to a more structured approach to patient education programs. Further research is required into patients with social circumstances that outweighed potential risks associated with missing dialysis.

Patients Journey from Chronic to End Stage Kidney Disease: 258

Debbie J Pugh,
Prince of Wales Hospital, Australia

Patients with Chronic Kidney Disease (CKD) face many challenges throughout their journey from CKD to End Stage Kidney disease (ESKD). For members of the renal team this progression may seem very routine; however, for the patients this may be a daunting experience. The aim of the renal team is to empower, educate and de-mystify the transition from CKD to ESKD. Taking into account the special needs and requirements of adult learners, and to complement the written literature and face to face education already available in our unit, we have devised a visual aid to promote these educational needs.

A poster was created demonstrating options for vascular access, dialysis, transplantation and conservative treatment.

It is hoped that patient awareness will be increased by having this poster freely available to persons attending the renal clinic. Hopefully questions that arise will be answered early in their treatment. This poster will help to take into account the differing learning abilities of adult patients. By providing patient education, early and in a positive manner, we aim to ensure their transition to ESKD and beyond, is as stress free as possible.

Magic Water: 259

Gary J Day,
Princess Alexandra Hospital, Australia
Lionel K Thring,
Princess Alexandra Hospital, Australia

Patient Andrew lives on a property in south east Queensland that runs on Bore and Rainwater.

The water, when used on plants turned the tips of the leaves brown!!

The clients wanted to use Bore water and, as a centre we relished the idea of a challenge and thought it would be an ideal opportunity for learning for us as a team, and to share with other centres that have a rural caseload.

We sampled water from the Bore, the Rainwater tanks and the nearest town, after analysis we looked at the parameters and decided how to deliver water that would meet American Association of Medical Instrumentation (AAMI) standards.

Analysis of bore water revealed the following results:

Chemistry	Bore	Brisbane Range (AAMI)
Conductivity	2680	micro siemens 433
TDS	1662mg/L	231 less than 500mg/L
Alkalinity	883mg/L	84
Sodium	660mg/L	44 less than 180mg/L
Chloride	368mg/L	72 less than 250mg/L
Aluminium	0.47mg/L	0.020 less than 0.20mg/L
Bacteria	2500cfu/mL	less than 100 less than 21 cfu/mL

We decided to install into the water system:

1x 5 and 1x1 micron filters

A Merlin Water Reverse Osmosis (WRO) unit

One 5000 Gallon tank

1 x Pump

1x 20 inch gradient micron filter

1x48 L and 1 x 14L carbon tanks

1x further 1 micron filter

1 x WRO 300 (standard for all home patients)

Post-treatment water analysis revealed a reduction in conductivity from 2680 μ S/cm (pre-treatment) to 262 μ S/cm (post Merlin WRO) and 23 μ S/cm (post WRO300)

In conclusion, although Bore water has its complexities, there are no barriers to Dialysing at home.

Newsflash: Recycling Rejected RO Water in the Home and Hospital: 260

Anne Salisbury,
Royal Brisbane and Women's Hospital,
Australia
Jock Howes,
Royal Brisbane and Women's Hospital,
Australia

In an environment of worsening drought, the RBWH Home Dialysis Unit investigated the feasibility of capturing rejected Reverse Osmosis (RO) water for recycling purposes.

To enable approval for capture of rejected water, we coordinated several discussion meetings with representatives from the key bodies in Queensland Water management: Brisbane & Pine Rivers Shire Council, Scientific Analytical Services, Building Codes Queensland and the Principal Advisors of the Plumbers and Drainers Board. At these discussion meetings we reviewed haemodialysis water processes, provided water analysis in scientific support of safety claims, and advocated the benefits of water capture.

Our outcome was approval granted for the collection of rejected RO water into a tank system for use on gardens/lawns. This approval also covered the collection of rejected RO water for dialysis units. A Plumbers Newsflash was generated for the State of Queensland by the Plumbers and Drainers Board.

In conclusion, we now have several home dialysis patients and a Satellite Unit recycling water. We are in the process of major Capital Works for our Incentre Unit, which will enable us to capture 1 million litres of water per year to recycle within the hospital grounds.

Rejected not Wasted: 261

Anna M Flynn,
Bendigo Health, Australia
Annette E Linton,
Bendigo Health, Australia

There were numerous discussions with the hospital's engineering department over recent years regarding recycling the reverse osmosis (RO) reject water. Unfortunately this was never undertaken until last year.

In 2006 Bendigo Health received funding from the 'Stormwater and Urban Water Conservation Fund' enabling the establishment of a water recycling program. One of the projects within the program is the recycling of the reject RO water from dialysis.

The recycled water is used within the hospital for toilet flushing. The system is designed with a gravity fed 500Lt holding tank below the dialysis unit. A water meter attached to the structure sends a signal, which is calibrated and converted to a volume, back to the building management system. This is electronically recorded as the volume of water saved each day.

The tank has two water level probes located on the side. When the water reaches the high level probe the pump turns on and water pumps to a toilet flushing tank elsewhere in the hospital. The pump switches off once the low level probe is reached. The holding tank has a safety overflow to the sewer if ever required.

The recycling of the reject water has saved approximately 1.7 MgLt's of potable water annually from going 'down the drain'. At a time where the country is in dire need for water saving measures this is a huge relief for all concerned staff and clients.

Tony Beeston,
North West Dialysis Service, Australia
Janice Pickering,
North West Dialysis Service, Australia

Background:

- Dialysis Technical Services, the technical arm of North West Dialysis Service, maintain water filtration and reverse osmosis equipment at numerous sites across Victoria including both satellite dialysis units using town mains water or trucked in potable water and home dialysis installations using town mains water, trucked in potable water and/or rainwater. All sites meet AAMI standards for 'water used to make dialysate' after site specific processing of the raw water

Discussion:

- The treatment process required to achieve product output that complies with the standards on an on demand basis has historically been inefficient with respect to the volume of water discharged to waste during this process
- Newer equipment now features water saving technology that allows up to an 80% recovery rate of waste flow
- With this equipment a significant reduction in the total volume discharged to waste can be achieved with minimal excess energy consumption
- Where this equipment is not available, discharge of reverse osmosis reject into a storage tank for any 'grey' water application is encouraged – there are numerous sites where this is done – the water may also be channelled into existing grey water plumbing for toilets, air con cooling towers or stored for garden watering or fire fighting reserves
- The reject water is not recycled for reverse osmosis reuse

Conclusion:

- Regardless of current climate conditions – water conservation in dialysis should have a high profile and all avenues for conservation or reuse should be explored wherever possible.

CD40L and Continuous Renal Replacement Therapy: 263

Vainess B Mbuzi,
The Prince Charles Hospital, Australia

Introduction:

Clot formation is the most common problems in continuous renal replacement therapy (CRRT). This therapy is essential to keep some patients alive in Intensive Care Units. Patients in renal failure suffer a rise in levels of potentially fatal toxins due to a decline in kidney function. It occurs frequently in the intensive care unit and is associated with an increased risk of death. CRRT allows removal of the toxins. Clot formation disrupts therapy and makes it ineffective because it is meant to imitate the kidney function. CD40 Ligand (CD40L) is a molecular protein in the body involved in inflammation and immune response process. It is also known to be involved in thrombosis process because of its expression on activated platelets. This has shown a close intertwined relationship between inflammation and coagulation. Since thrombosis and inflammation, together with immune response are intricately linked, the researchers suspected that during CRRT, factors such as CD40L are released in larger amounts, contributing to clot formation. Despite vigilant nursing and medical management of this group of patients, clot formation has remained the main limiting problem in this therapy.

Method:

This project analysed blood samples of participants, before, during and after dialysis, in order to determine the effect this treatment has on CD40 ligand release. It was a descriptive study.

Conclusion:

More study into micro effect of CRRT is necessary in order too assist better patient outcome for patients requiring CRRT.

Meet Meryl - Translumbar Cuffed Catheter as Permanent Access: 264

Jane M Handsley,
Gold Coast Hospital, Australia

Meryl has required renal replacement therapy since 1993, in the form of Peritoneal dialysis, and since 2000, haemodialysis. She has an extensive medical and surgical history including hypertension, Asthma, gastritis, Bells Palsy, Thyroid Cancer, Cervical Cancer, failed renal transplant, pancreatitis chronic fatigue syndrome, cholecystectomy, total abdominal hysterectomy, bilateral cataract extractions, corneal implants and a parathyroidectomy, to mention a few. She is also a vasculopath, and in July of 2004 required insertion of a cuffed translumbar catheter due to failure of all other permanent vascular attempts. This was the only option left for Meryl if she wanted to continue on dialysis.

At this point in time, none of the Nephrologists, Radiologists, surgeons or Nurses had ever had experience with Translumbar catheters. It was a first for all us.

As a result, it was an extremely difficult catheter insertion and the Nephrologists and in particular the Haemodialysis nurses had the difficult and challenging task of learning how to maintain this catheter to provide adequate and long term dialysis for Meryl.

Nearly three years have passed and Meryl's translumbar is still chugging along. This has resulted from the collaborative and rewarding efforts of the patient and her carer, members of the Renal team and the catheter manufacturer representatives who have dealt with multiple challenges to maintain patency and efficiency of this catheter, in an environment where there was not a great deal of knowledge and experience locally or elsewhere to draw upon.

Access Insufficiency Project: Improving Vascular Access Preparation for Haemodialysis: 265

Glenn Stewart,
CRGH, Australia
Martin Gallagher,
Statewise Renal Service, Australia

Introduction:

The establishment and maintenance of permanent access for dialysis is one of the core duties of any renal unit. It is also the process that consumes the greatest amount of time and energy of staff, both within the renal unit and from other units who contribute to the process. At CRGH the provision of this service was creating a great deal of frustration, with real concern from many such staff that the service being provided was less than ideal.

Methods:

A multidisciplinary group was formed with a view to improving the system of care of dialysis access. This group comprised representatives of the vascular surgery unit, radiology, renal unit, infection control and anaesthetics and focused upon:

1. Reducing the number of days of patient exposure to temporary dialysis catheters
2. Reducing the rate of infection from temporary dialysis catheters
3. Reducing the time between insertion of catheter and creation of permanent access

Results:

The median duration of each episode of access insufficiency has fallen from 56 days in 2005 to 25 days in 2006 ($p < 0.001$). This has been accompanied by a fall in the number of inpatient days required for each episode from 15.6 days to 9.6 days. The rate of catheter associated bacteraemia has fallen from 2.7 to 2.34/1000 catheter days ($p = 0.13$, ns).

Conclusion:

Clinical significant improvements in patient outcomes are possible within existing health care systems.

Increased Arterial Stiffness in Hemodialysis Patients with End Stage Renal Disease caused by Diabetic Nephropathy: 266

Marianne Smith,
Launceston General Hospital, Australia
Lisa M Anderson,
Launceston General Hospital, Australia
James E Sharman,
Princess Alexandra Hospital, Australia
Kirsten Koh,
Launceston General Hospital, Australia
Robert G Fassett,
Launceston General Hospital, Australia
Jeff S Coombes,
University of Queensland, Australia

Arterial stiffness has been shown to predict outcome in patients with end stage renal disease (ESRD). We investigated whether arterial stiffness was different between hemodialysis (HD) patients with ESRD caused by diabetic nephropathy (DN) compared with other causes. 39 HD patients are included in this study. There were no significant ($P>0.05$) differences between patients whose ESRD was caused by DN ($n=12$) compared to other causes ($n=27$) in respect to age (63.11 vs 55.18 yrs), time on dialysis (2.81.7 vs 3.51.9 yrs) and factors known, or thought to affect arterial stiffness and wave reflection such as sex (male = 50% vs 63%), height (168.13 vs 165.10 cm), resting heart rate (72.311.2 vs 73.511.0 bpm) and mean arterial pressure (107.15 vs 102.16 mm Hg). Radial artery pulse waveforms were obtained by using the SphygmoCor System (Atcor Medical, Sydney, Australia). Pulse wave velocity (PWV) between the radial and carotid arteries was measured using the same equipment. PWV was significantly ($P<0.05$) greater in patients with ESRD caused by DN compared to other causes (9.32.0 vs 8.01.7 m/s). Analysis of aortic wave forms showed that the reflected wave arrival time $T(r)$ was significantly ($P<0.05$) slower in patients with DN (128.711.4 vs 136.910.7 m/s) further indicating increased arterial stiffness. In summary, in hemodialysis patients with ESRD caused by DN there is increased arterial stiffness suggesting that more aggressive therapy to address vascular protection should be undertaken in the early stages of DN.

Retrospective Qualitative Evaluation of Nursing Resistance to Change in Incentre Dialysis Practices: 267

Marita M Lynagh,
Royal Brisbane and Women's Hospital,
Australia
Margaret E Jacks,
Royal Brisbane and Women's Hospital,
Australia

Introduction:

To establish buttonhole technique on an incentre dialysis patient which is not current practice within the unit, a literature search for best practice uncovered recommendations for thrice weekly buttonholing for incentre dialysis settings.

Methods:

Identified resistance from nursing staff, which was initially verbal regarding "one-site-itis". A questionnaire was undertaken to establish identification of issues with buttonholing and address them. Change management strategies implemented to upskill nursing staff and to promote buttonholing as a positive outcome.

Results:

Identified education support requirements to be addressed.

Conclusion:

To introduce a proper process for buttonholing, and identify and put into place change management tools for changes in practice.

Venous Access - Right Sites for Good Outcomes: 268

Jayne C Amy,
Melbourne Health, Australia
Eugenie Pedagogos,
The Royal Melbourne Hospital, Australia

Arterio-Venous Fistula (AVF) is the access of choice for patients requiring haemodialysis. Selection of the appropriate vessels is an important step in the management of vascular access. For patients of the North West Dialysis Service, site is determined by ultrasonic duplex mapping and clinical examination by the operating surgeon.

Methods:

We examined outcomes in 58 patients with an AVF created over a 14 month period. Patients were grouped by access type: Brachio-cephalic (BC; n=20), Radio-cephalic (RC;n=18) and Brachio-basilic (BB;n=20). Age and the incidence of diabetes were similar in all groups. The median age was 64, 58, 64 years in BC, RC and BB groups respectively. Diabetics comprised 35% of BC, 39% of RC and 45% of BB groups. Access failure was defined as occlusive intra-luminal thrombosis, with or without stenosis, warranting intervention.

Results:

Within 28 days of surgical creation, 1/20 BC, 2/18 RC and 2/20 BB AVF's failed. Of those that failed, 4/6 had pre-existing vascular pathology.

Conclusions:

Our data suggests that the low failure rate at 28 days supports the value of our traditional pre-operative limb assessment methods with no greater predictive benefit linked to site of placement. Stepping into the future to potentially improve outcomes, we are currently extending the pre-operative pathways to include calculation of the Hyperemic Resistance Index (HRI) This is a documented predictor of AVF failure (Seminars in Dialysis 2003;16:299-303). HRI is calculated as resistance index =A-B/A, where A is the maximal systolic velocity and B is the minimum diastolic velocity.

Communicating Bad News to Patients - How Well are Nurses Equipped to Do This?: 269

Deslie Henley,
Princess Alexandra Hospital, Australia
Robyn Rogers,
Princess Alexandra Hospital, Australia

Haemodialysis patients see each other at dialysis at least three times a week and many become close friends. When a death occurs in the unit a friend has been lost. Often the patients may not even be aware that someone has died until they ask sometime later and many struggle to cope with the loss. Another stressor which many patients are faced with is when a 'dialysis friend' decides to cease treatment.

Nurses endeavour to support patients in these situations but there are many barriers that prevent effective communication about these issues.

These barriers include:

- Patient confidentiality;
- Confrontational aspect (for patients and staff);
- Professional versus personal issues;
- Cultural issues;
- Legality;

Therefore nurses are often hesitant and uncertain on how to converse with patients on these topics. This has lead staff to develop strategies which will assist all concerned to feel comfortable and confident when communicating bad news and supporting our patients.

Two case studies will be presented as follows:

- A patient who was on dialysis for 35years and made an informed decision to cease treatment.
- A patient who passed away suddenly and was found deceased in her home by police when contacted by the unit staff.

Both of these patients were popular with their dialysis peers and both staff and patients were upset. How could we have facilitated better communication with our patients and allowed them to grieve appropriately?

Rope Ladder Cannulation of an Established Arteriovenous Access - A Problem Solving Tool for the Novice Clinician: 270

Julie M Owens,
Royal Brisbane and Womens Hospital,
Australia

Introduction:

For individuals undergoing long term haemodialysis, survival outcomes are dependent upon having a well functioning permanent arteriovenous (AV) access. Haemodialysis vascular access dysfunction is the single most important cause of morbidity in the haemodialysis population. All measures aimed at preservation of AV access are therefore vitally important. For this reason an education package was devised in an effort to facilitate knowledge and skill development of haemodialysis nursing staff to assess and cannulate AV access for optimal patient outcome.

Method:

As there are few AV access assessment and cannulation education packages available, a short survey and needs analysis was conducted with nursing staff. This facilitated structure of the learning package to best deliver information to staff in the unit.

Results:

Of 24 staff surveyed, at the time representing 80% of total target staff in the unit (i.e. those who perform cannulation). Responses overwhelming supported the need for a learning package and many suggestions were given for its optimization.

Conclusion:

As a result, development of a comprehensive learning package was initiated with the formulation of a basic package of the novice clinician including a research article, power point presentation and a poster/flowchart – "Rope Ladder Cannulation of an Established Arteriovenous Access." Future development will continue to address ongoing needs of all clinicians and foster an appreciation of the importance of research and evidence based guidelines to ensure best practice.

Does Intradialytic Blood Volume Monitoring Reduce or Prevent Intradialytic Hypotension: 271

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South Eastern Sydney Illawarra Area
Health Service, Australia
Yvonne White,
University of Wollongong, Australia
Maureen Lonergan,
South Eastern Sydney Illawarra Health
Service, Australia

Background:

Hypotension is the most frequent adverse event in most hemodialysis units, and is the result of many factors (Terrill 2002, p. 171). Episodes of intradialytic hypotension are 'rare in the absence of an ultrafiltration induced reduction in blood volume' (Sherman 2002, p. 141). Therefore intradialytic blood volume monitoring in association with the monitoring of blood pressure may provide information on a 'critical' point for intervention to prevent and/or reduce the risk of hypotensive episodes. Blood Volume monitoring has been effective in 72% of patients investigated, and identified the 'individual threshold' which if exceeded resulted in a hypotensive episode (Passlick-Deetjen et al 1999).

Aim:

To reduce hypotensive episodes in identified high risk patients during haemodialysis sessions by 25%.

Method:

There were 25 haemodialysis patients who participated in this study and their blood pressure and BVS reading were recorded hourly during dialysis. Each participant was followed for 36 haemodialysis sessions.

Results:

Results of this study will be presented at the conference as they are still being analysed at time of abstract submission. However early results are providing guidance for the development of guidelines for the management of hypotensive events during haemodialysis.

Conclusion:

BVS has proven to be a valuable tool to assist the renal nurse in the identification of an individual critical point at which a hypotensive event becomes very likely. The ability to identify this critical point will allow the renal nurse to intervene to prevent hypotensive events.

Reducing the Falls Risk Within the Haemodialysis Population: 272

Owen Curtis,
University of Wollongong, Australia
Maureen Lonergan,
South Eastern Sydney Illawarra Area
Health Service, Australia
Yvonne White,
University of Wollongong, Australia

Background:

Haemodialysis patients are at a considerably increased risk of falls due to many factors which include physical inactivity, medications and consequences of ESRD and uraemia. For independent living there are various 'essential' physical actions of the lower and upper body which must be undertaken. The University of Wollongong School of Health Sciences was successful in obtaining \$187,000 dollars to implement a falls prevention program for those on haemodialysis, which has resulted in a collaborative project involving the University, the SESIAHS, and Divisions of General Practice.

Aim:

The aim of this research project is to decrease the risk of falls within the haemodialysis population.

Method:

Participants for the study were all on maintenance haemodialysis. Each participant underwent a falls risk assessment using a tool developed by the University of New South Wales and the Prince of Wales Hospital. Following this initial assessment an individualised exercise program was designed and implemented by exercise physiologists. At the end of 6 months the participants were again assessed for falls risk.

Results:

At the time of the writing of this abstract the study has not been completed, however results will be presented to the RSA conference in August 2007.

Conclusion:

It is projected that the resistance exercise program will reduce the risk of falls in the haemodialysis population markedly by increasing muscle strength and endurance which consequently will enable better balance, and recovery from loss of balance.

Mango Madness; The effect of Mango Season on Potassium Levels of Haemodialysis Patients in the Top End, Northern Territory (NT): 273

Sally A Noble,
Top End Renal Services, Australia
Joy-Anne L Ellis,
Top End Renal Services, Australia

The Top Ends plentiful mango season extends from September to November. Mangoes are high in potassium, containing 250mg of potassium/100grams. This study aims to investigate the impact of mango season on potassium levels.

Part 1 involved comparing average monthly potassium levels of haemodialysis patients from 2004-2006 in the Top End. Part 2 involved comparing average monthly potassium levels during mango season with the same months in Central Australia from 2005-2006.

Part 1 showed no difference in potassium levels in mango season months compared with other months. Part 2 demonstrated no trend in potassium levels. In 2006, potassium levels during September to November in Central Australia were lower than those in the Top End. The opposite occurred in 2005, where potassium levels in Central Australia were higher than in the Top End.

The lack of differences in potassium levels between mango season months and the rest of the year maybe due to awareness of staff of the high amounts of potassium in mangoes and consistent education provided to patients. Lower average potassium levels in Central Australia for 2006 was expected, as mangoes aren't plentiful there. Unexpectedly, in 2005, potassium levels during mango season in Central Australia were higher than the Top End.

The study indicates there is no increase in average potassium levels during mango season. Mangoes are nourishing, containing many nutrients. Given ease of access and low cost, a small intake of mangoes could increase patient's fruit and fibre intake, without impacting on potassium levels or patient health.

Adverse Reactions to Epoetins in Chronic Kidney Disease: 274

Margaret J Morris,
St Vincent's Health, Australia

Introduction:

The introduction of recombinant human erythropoietin (rHuEPO) in Australia in 1989 had a significant impact on the quality of life of people receiving dialysis or treatment for chronic kidney disease. rHuEPO was considered a safe and effective treatment for anaemia of chronic kidney disease. The reports of pure red cell aplasia in EPO treated patients from 2002 led many health care workers to rethink the safety of all medications, including those previously considered free of risk.

Methods:

This presentation will review four case reports of people treated with darbepoetin alfa who experienced an adverse reaction that was subsequently reported to the Therapeutic Goods Administration (TGA). A further six case reports of suspected reactions will be presented. These reactions were not immediately obvious to health care providers as being an adverse drug reaction, and in some cases investigation had been undertaken looking for a cause for the symptoms.

Results:

In the four confirmed case reports, all patients reported complete resolution of their presenting symptoms with cessation of darbepoetin alfa and transfer to an alternative epoetin.

Conclusion:

This presentation is designed to prompt health care providers to look for a link between the onset of a new, unexplained symptom, and recent medication changes.

Investigating the Relationship Between Elevated Haemoglobin and Iron Status: 275

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Royal Darwin Hospital, Australia
Avril MacLeod,
Royal Prince Alfred Hospital, Australia
Susan Sheehan,
John Hunter Hospital, Australia
Jeanette Gatgens,
John Hunter Hospital, Australia

Our aim was to evaluate iron status in haemodialysis patients with haemoglobin(Hb) \geq 135 g/L.

Method

Haemodialysis records (n=28,680 for 4,208 patients) were extracted from the Renal Anemia Management (RAM) database from 1 July 2005 to 31 December 2005. From these records complete data for haemoglobin, serum ferritin (300-800 μ g/L) and transferrin saturation (20-50%). (n=8993 for 3683 patients) was extracted. 816 patients had at least one elevated Hb during this period. 636 were treated with erythropoiesis stimulating agents (ESA), 377 received epoetin alfa, 259 received darbepoetin alfa, and 180 were not treated with any ESA.

Results:

12.2% of non Aboriginal and Torres Strait Islanders (ATSI) records and 12.8% of ATSI records were identified with elevated Hb. Of this group 24.7% of non ATSI records and 23.8% of ATSI records were iron replete. A logistical regression analysis performed for iron replete with non elevated haemoglobin was found to be not statistically significant.

Conclusion

Elevated haemoglobin reflects the need for continuing correction and maintenance iron therapy, regardless of ESA. More attention to maintenance iron therapy is required in all haemodialysis patients.

Development of a Visual Feedback Tool to Improve Fluid & Medication Compliance amongst Indigenous Clients in a Haemodialysis Satellite Unit in Remote Australia: 276

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Tennant Creek Dialysis Unit, Australia
Jenny S Cutter,
Casey Dialysis Unit, Australia
Lauren Tyack,
Alice Springs Hospital, Australia

Problem:

- Consistently large Intra Dialytic Weight Gains(IDWG) in approximately 50% of patient population. Frequent use of Isolated UF to achieve patients Ideal Body Weight.
- Pre Dialysis Phosphate Levels. Caring for Australians with Renal Impairment(CARI) guidelines recommended pre dialysis serum phosphate levels of 0.80-1.60mmol/L.

Aim:

- Reduce IDWG, and serum phosphate levels in target groups.

Methodology:

A visual tool was modified for our 100% indigenous population, providing patients with a chart illustrating their progress with fluid & phosphate levels in graph form.

Patients were requested to bring in their weekly medications (Webster Packs) for review, IDWG & serum phosphate levels were measured for a period of 3 months pre implementation, and 2.5 months post implementation of Visual Tool.

Outcomes:

- 73% of target population demonstrated a 12.5% reduction in IDWG.
- 60% of target population demonstrated a 11% reduction in serum phosphate levels.

Conclusion:

- Reduction in IDWG, we believe, can be attributed to the introduction of visual feedback tool, which provided patients and staff with an individual picture of their progress, and more specifically, a guide illustrating staff expectations of reasonable IDWG.
- The improvement in serum phosphate levels is promising, but cannot be attributed solely to the introduction of visual feedback tool, as dispensing and monitoring of Webster packs, which includes phosphate binders, was introduced simultaneously.

Based on current results, with continued use of the visual feedback tool amongst target groups, further improvements are anticipated.

Some Nursing Perspectives on Using Serena Breakpoint: 277

Sue Greaves,
Gambro Australia, Australia

Breakpoint is a therapy for Automated Peritoneal Dialysis (APD). It is only available on the Serena cyclor. Breakpoint therapy and its parameters offer another solution to the available known therapies for APD. Breakpoint has been available for use in Australia for approximately three years, however the Serena cyclor has only been utilised for APD for the last two years. What will be discussed are the findings of a survey conducted by the author of all of those nurses who have either managed patients who are utilising Breakpoint or prescribed Breakpoint over the last year. At present Breakpoint has been utilised in four States with a varying range of patient numbers and therefore subsequent nurse exposure to the therapy. The survey focuses on both patient outcomes from a nursing perspective and nurse evaluation of the therapy. Sleep disturbance, alarm management and resultant treatments are some of the topics surveyed and included in the discussion.

The Wolf in Sheep's Clothing; A Case Presentation: 278

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Prince of Wales, Australia
Scott Browning,
Prince of Wales, Australia
Annette Jones,
Prince of Wales Hospital, Australia

Systemic lupus erythematosus (SLE) is a chronic recurrent, potentially fatal multisystem inflammatory disorder that can be difficult to diagnose. The disease has no single diagnostic marker, instead it is identified through a combination of clinical and laboratory criteria. Accurate diagnosis of SLE is important because treatment can reduce morbidity and mortality, particularly from lupus nephritis.

Renal involvement is common in idiopathic SLE. An abnormal urinalysis with or without an elevated plasma creatinine concentration is present in approximately 50% of patients at the time of diagnosis and eventually develops in more than 75% of cases. The total incidence, however, probably exceeds 90% since renal biopsy in patients without any clinical evidence of renal disease often reveals a focal or diffuse proliferative glomerulonephritis.

The purpose of the presentation is to present a case of a 23 year old female who has grade IV lupus proven on renal biopsy, treated with a course of intravenous cyclophosphamide and then became lost to follow-up. On re presenting, she had severe Nephrotic syndrome and deteriorating renal function which rapidly progressed to end stage renal failure despite aggressive treatment. The presentation will focus on the diagnosis, clinical manifestations, and medical and nursing management this patient received.

Optimal Ultrafiltration Profiling in Haemodialysis: 279

John H Yung,
Fremantle Hospital, Australia

Hypotension is a not uncommon during dialysis. However, it is seen more in older people and those suffers from diabetes or cardiac co- morbidities, even when their U F goal is below 3 liters. It is very often patient got sent home without adequate ultrafiltration. Cardiac complication such as congestive heart failure will developed or get worse over time.

With modern technology, the use of the blood volume monitor can help staff to understand the importance of refilling during ultrafiltration. Patients are maintain not less than 85% of blood volume.

Fresenius made haemodialysis machine pre-installed a number of UF profiling to provide a saver platform for ultrafiltration, of which number 5 and number 6 provide pulsating ultrafiltration and refilling mode. Each mode last 24 minutes over the 4 hours session.

Still, some patients still can't handle it.

Close to 30% of the renal patients in our renal unit has such underlying co-morbidities, it is an issue and there is a need of alternate management.

By aiming at half the UF goal, applying the UF profiling no.5 over two hours,it create ten 12minutes session of ultrafiltration and refilling mode respectively, with the help of the blood volume monitor, patient's refilling ability maintained and haemodynamic stable was well demonstrated. The process needs to repeat as soon as it finished the two hours. So the full 4 hours of treatment can be completed.

The results is encouraging and patients feels better and less drained and request the same treatment whenever possible.

Streamlining Patient Management in Busy Dialysis Unit: 351

Margaret E Jacks,
Royal Brisbane Womens Hospital,
Australia

Introduction:

Expansion of renal service and changes in the role of Nurse unit manager resulted in an identified need for management and organisation of patient care.

Left to the ad hoc management from the rostered staff led to missed appointments, over booking of dialysis chairs, frustrated medical staff and frustrated patients. To add to the complexity of this issue, the Royal Brisbane and Women's hospital is a major referring centre for regional Queensland. Co-ordination of transfers from regional areas required urgent streamlining.

Methods:

A review of possible strategies led to the trial of a clinical co-ordinator nursing position. The trial was evaluated and the position was implemented and appointed.

Results:

Single point of contact reduces confusion and improves communication. The clinical co-ordinator liaises with the multi disciplinary team and regional centres on behalf of the patients. This has resulted in the stream lining of processes for patients and health workers.

Conclusion:

Evaluation of this role demonstrates patients are better managed with a single point of contact.

Overcoming Barriers when a 4 year old Patient is required to attend an Adult Haemodialysis Unit: 352

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Australia
Vanessa Scott,
Prince of Wales Hospital, Australia

The treatment of choice for paediatric patients with end stage kidney disease is peritoneal dialysis and/or transplantation. When this fails haemodialysis becomes the only option.

The Prince of Wales hospital (POWH) has a shared care agreement with Sydney Children's Hospital (SCH) to provide haemodialysis treatment to paediatric patients. The POWH unit has dialysed children of various ages and size in the past, however this occurs infrequently.

In 2006 we were required to haemodialysis a 4 year old female patient. Since the last paediatric patient of this size and weight required haemodialysis at POWH, there had been many staff changes. The current staff had a lack of experience in this type of paediatric dialysis. This caused current staff to be hesitant and anxious about undertaking a responsibility, they felt, they were not prepared for and adequately educated to perform.

The principal motivation was to alleviate staff concerns and fears whilst performing safe treatment for this patient. Education sessions were organised both from within the paediatric renal service at SCH and other children's services around Australia. For,al guidelines and protocols were updated or put in place.

As a result of intense education and support, our paediatric patient has been dialysed sucessfully for over 12 months.

With education and support most fears can be addressed and overcome, leading to a mutually beneficial experience for all participants.

Monthly Laboratory Sampling for Haemodialysis Patients: Is it Necessary?: 353

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Ashley B Irish,
Royal Perth Hospital, Australia
Kate North,
Midland Satellite Dialysis Unit, Australia

Background:

The practice of routine monthly laboratory sampling in haemodialysis is convenient but not evidence based. We studied a cohort of stable patients at Midland haemodialysis unit to determine the clinical utility of routine monthly blood sampling.

Method:

Nursing staff at the dialysis unit recorded monthly blood results, dialysis parameters, medication doses and hospital events, for six months between September 2006 and February 2007.

Results:

45 patients were followed for 265 patient/months. 1 patient died and there were 19/220 (5.2%) hospitalisations during the study, with 79% (n=15) of these being unplanned. Only 2 episodes of extraordinary laboratory sampling took place at the satellite unit during this time. Changes to therapy occurred in 170/220 (58%) of patient/months follow-up (0.55 events per month), and comprised altered erythropoietin, iron, vitamin D, or phosphate binder therapy and/or dialysate composition. Of the 58% with changes, the median therapy change was 1 per patient (range 1-4).

Conclusion:

Monthly blood testing is associated with a clinical change rate of around 1 change every 2 months. The majority of changes involve epoetic agents, iron and phosphate binders. Only 2 extraordinary testing events occurred outside of routine testing. A trial of second monthly testing is warranted to assess the safety and reliability of reduced frequency testing.

Haemodiafiltration in 2007: Can we Offer our Patients More?: 354

Lorraine M Burchell,
Gambro Pty Ltd, Australia

Haemodialysis as a treatment for ESKD has now been in use for over 40 years. Whilst the use of haemodialysis as a treatment has saved many lives during that time and technology has advanced greatly, its limitations as a treatment modality are evident. Life expectancy of dialysis patients is significantly lower when compared to non-dialysis subjects, with cardiovascular disease being the leading cause of mortality in dialysis patients.

With the increasing identification of uraemic toxins greater than 500 daltons and protein bound solutes, there is evidence that conventional low flux dialysis, which relies on diffusive clearance, will not remove these solutes.

This discussion therefore reviews current literature and practices for evidence that convective therapies, specifically HDF, can offer greater solute clearance and thus improved outcomes. Whilst there is currently little data in terms of long term studies to support the theory that on-line HDF is superior to conventional therapies, there is also no data to support the widespread use of high flux dialysis. Therefore the efficacy of HDF must be assessed considering the short term studies currently available. In reviewing current HDF practices, the benefits of post-dilution therapies over pre-dilution therapies are also shown.

Current literature and practices show that the use of convective therapies not only enhance middle molecule clearance, but also improve haemodynamic status, long term effects of beta 2 microglobulin accumulation, anaemia, phosphate clearance, chronic inflammation and mortality.

Thus literature and practice guidelines support the use of convective therapies to maximise middle molecule clearance and patient outcomes.

Improvement in Serum Phosphate for Clients Exercising on Haemodialysis is Unrelated to Dietary Phosphorous Intake: 355

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Paul N Bennett,
Flinders University, Australia
Leo Breugelmans,
Royal Adelaide Hospital, Australia
Bob Barnard,
Royal Adelaide Hospital, Australia

Aim:

To determine if decreased serum phosphate was associated with changes in dietary phosphorous intake in the exercising ESRD client on haemodialysis

Methods:

Nutritional intake, appetite and nutrition assessment was measured at baseline and at 12 months in client on dialysis undergoing an exercise program. Nutritional intake was assessed using the validated dietary questionnaire "The Anti Cancer Council of Victoria Dietary Food Frequency Questionnaire (FFQ)". Appetite was measured as per FBBC malnutrition screening tool. Nutrition assessment of patients who completed 12 months in the program included assessment of changes dry weight, intradialytic weight gains, haemoglobin, serum glucose, calcium, phosphorous, albumin and glycohaemoglobin.

Results:

N = 28. At 12 months 15 clients repeated these measures. 13 withdrew due to transplant, stopping exercise or death. Of the exercising patients who continued the program there were no significant changes in the nutritional indices at twelve months. There were no significant changes in mid-week pre-dialysis BMI, weight, albumin, potassium and urea. There was a small but significant decrease in mid-week pre-dialysis serum phosphate (0.19mmol/L p=0.008)

Conclusion:

Despite there being no significant change in dietary phosphorous intake there was a significant improvement in serum phosphate. Our study does not support the hypothesis that decreased serum phosphate is related to dietary intake of ESRD clients on dialysis.

Waterwise Wangaratta: 356

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Northeast Health Wangaratta, Australia
Rose H Purches,
Northeast Health Wangaratta, Australia
Trish J Maguire,
Northeast Health Wangaratta, Australia

As the drought persists throughout Victoria Stage 4 water restrictions were implemented in Wangaratta in mid January 2007. North East Health Wangaratta (NHW) Facilities, Management and Planning Department, in conjunction with the Dialysis Unit, decided to reuse the reject water from the reverse osmosis (R.O.) unit. After gaining approval from the Board of Management, costing was undertaken and four, 1800 litre tanks were installed to collect the approximate 15,000 litres of reject water produced weekly from the R.O. This now allows for watering of limited gardens around the hospital site via a sprinkler system second daily. This shows that with a cooperative approach between departments within the hospital, for minimal outlay and expense, an environmentally friendly result is both feasible and achievable.

Gaining the Compliance of Patients and the Visitors as a Means of Controlling VRE as we Move into the Future: 357

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Joanne PS Kok,
Southern Health, Australia
Siew Eng Foo,
Southern Health, Australia

Preventing the transmission of VRE is crucial to the care of patients with renal failure. This is especially so for the patients with Stage 5 Chronic Kidney Disease who are receiving haemodialysis in either a satellite or hospital environment. While nursing staff are conversant with infection control procedures, this is not always the case with patients and their visitors in the dialysis units at Southern Health. It has been observed that patients and their visitors have little knowledge about VRE and its prevention, and they do not comply with the requirements for controlling its transmission. This presentation will discuss the factors contributing to non-compliance with infection control procedures that have been observed in patients and visitors. The daily activities of patients with VRE and their visitors will be noted and recorded. Methods of infection control and the failure to adhere to the practice of universal precautions will also be presented. These problems will be discussed and recommendations for improving compliance with infection control will be made. It is a major challenge to manage VRE infection without the collaboration of the patients and the visitors. Without raising their attention and gaining their active involvement in infection control activities, VRE will remain a significant threat as a nosocomial infection to all patients with renal failure. As patients and their visitors become part of an active team in infection control, there is hope that nosocomial infections will become a lesser challenge as we move towards a future possibly challenged with more opportunistic organisms.

Sepsis is Associated With Iron Overload in Hemodialysis Patients Receiving IV Iron: 358

Chinnapu Reddy Gopu,
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India

Introduction:

Intravenous (IV) iron given to hemodialyzed patients to treat anemia of chronic kidney disease (CKD) frequently leads to iron overload. We studied the incidence of sepsis in CKD patients with and without iron overload. Procalcitonin, Interleukins 1, 6 and TNF-alpha were determined in these patients.

Methods:

Serum Procalcitonin was estimated semi quantitatively and pro-inflammatory cytokines (IL-1, IL-6, TNF-) were quantified by ELISA.

The study groups comprised of CKD patients on hemodialysis, receiving IV iron (n = 33), and CKD patients not on hemodialysis and receiving oral iron (n = 36).

Results:

Among patients receiving IV iron and on HD, non survivors had significant ($p < 0.05$) iron overload as evidenced by mean ferritin of 1079ng/ml, while survivors had mean ferritin levels of 626ng/ml, well below the stipulated NKF/DOQI guidelines of 800ng/ml. 36.7 % HD patients receiving IV iron had elevated ferritin (> 800 ng/ml) levels. Among them, those having PCT levels greater than 10ng/ml, had a mortality of 67%. Elevated interleukin-6 and tumor necrosis factor- were associated with high rate of mortality in patients having PCT levels greater than 10ng/ml.

Conclusions:

Iron overload leads to the availability of iron for bacterial growth and becomes one more risk factor propagating sepsis in hemodialyzed patients. Elevated interleukin-6 and tumor necrosis factor- were associated with high rate of mortality in patients having severe sepsis.

Analysis of Primary Haemodialysis Vascular Access Survival in a Patient Cohort Followed for a Minimum of 5 Years: 360

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Australia
Adrian Gillin,
Australia
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Australia
J Fiore Chapman,
Australia

Long term outcomes of haemodialysis access may be impacted upon by patient death or successful renal transplantation. We therefore report the results of a cohort study of 52 patients who had primary vascular access created in 2001.

Data was obtained from Doppler Ultrasound records, patient records as well as outcome data from the ANZDATA registry. Data included patient demographics, presence of diabetes, type of access, interventions to maintain patency as well as patient and access outcomes.

Some of the overall patient and access outcomes at 5 years include: of those patients who had an Arterio Venous Fistula (AVF n=36), 12(33%) have died compared to 14(86%) of the patients who had a Arterio Venous Graft (AVG n=16) (P value 0.001). 14 (54%) of these patients died from cardiovascular causes. 7(20%) of patients who had an AVF have been transplanted compared to none whose primary access had been an AVG. (P value 0.05) 21/52 patients had diabetes. 15(41%) of these patients had an AVF compared to 6(36%) patients with an AVG. 8 of the primary AVFs remain functioning after 5 years compared to none of the primary AVGs.

In conclusion native vein Arterio Venous Fistulas were created in 69% of patients who had a primary access in 2001 of which 22% remained patent at 5 years. Also, in this cohort, patients with an Arterio Venous Graft had an increased risk of death but were more likely to have their access used until death.

Fistula Preservation - An Innovative Approach: 361

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Karen Moore,
Toowoomba & Darling Downs Health
Service District, Australia

The Haemodialysis client's vascular access is their lifeline and to preserve it renal nurses need to ensure their practice is current and evidence based.

Recently, following attendance at an educational seminar it was highlighted that there were more elements of practice to consider when cannulating a fistula than previously used within my current workplace. I hypothesised: "Could our cannulating technique be improved"?

Whilst an extensive literature search provided some information in relation to cannula placement eg. area, rope ladder and buttonholing techniques, it was evident there was very little current literature in relation to antegrade and retrograde practice.

An Australia wide benchmarking exercise indicated that units were varied in practice but could not validate their current cannulation techniques.

Due to this dearth of evidence a local retrospective comparative study was conducted on 25 prevalent in-centre haemodialysis clients. The study compared arterial pressures, blood flow rates, recirculation studies and bleeding times between the two different techniques. Results indicate there is no evidence to substantiate any difference in relation to the above indicators between antegrade and retrograde cannulation.

The above has prompted me to explore other options for cannulation practice within the local in-centre population. The buttonholing technique is now being used for problematic fistulas with good results.

These research findings have enabled our unit to utilise a proactive approach to individualised fistula care for the haemodialysis client, enhancing fistula preservation and subsequent reduction of access complications.

Central Venous Catheters Performance and Management: A Dialysis Unit's Experience: 362

Ianthie Kulatilleke,
Alfred Hospital, Australia
Serena Lee,
Australia

The Alfred Hospital Dialysis Unit (ADU) located in Melbourne, provides haemodialysis for Acute and Chronic patients with kidney disease.

Many patients present with no access requiring an insertion of Central Venous Catheter (CVC) at the commencement of dialysis. On the other hand, chronic patients often have access problems and may need to be dialyzed via a CVC. Therefore the use of Central Venous Catheters is an important aspect of care in our unit.

Evidences from the DOPPS study (2003) indicated that patients receiving Haemodialysis via a catheter was associated with lower hemoglobin levels, a higher hospitalization risk and has a higher patient mortality risk. The risk of infection for tunneled catheters was 5 fold and 8 fold higher for untunneled catheters compared with AV (Aterio Venous) fistulae and the use of a catheter was associated with an increased risk of failure of a subsequent AV fistula.

Recently in ADU, we examined the effectiveness of central venous catheters used for hemodialysis. Based on the unit policy and procedure manual, a retrospective study was undertaken to evaluate the variables of catheter use in the last twelve months with specific focus on the urea reduction rate (URR), infection rate, access flow patency and anaemia management.

The results reflected effective clinical practice and management of patients with central venous access for dialysis. Working within the guidance of our policy and procedure, we are able to improve and provide optimal care to our patients.

Sodium Thiosulphate: A Most Promising Therapeutic Option to Treat Calciphylaxis: 363

Bobby S Sandhu,
St. Vincents Public Hospital, Australia

Calciphylaxis is fatal disease for patients who are haemodialysis dependant. It is a devastating disease with a high rate of mortality and morbidity. This poster aims to discuss a new innovate therapy that is having significant success in treating this life threatening disease.

A 59yo female haemodialysis dependant women was admitted to St. Vincents Hospital in Melbourne after developing painful necrotic ulcers on her abdomen, both breasts and both claves. Skin biopsies showed extensive areas of necrosis and infarction of fat and focal calcification. A diagnosis of calciphylaxis based on clinical and histopathological evidence was made. The treating team initiated intravenous sodium thiosulphate 3 times weekly. After 2 weeks of treatment, no new lesions were detectable and the patient felt dramatic pain relief. In the following 4 weeks, a successive decrease in the ulcer size and the healing of individual tissue defects could be seen. In conclusion intravenous sodium thiosulfate may be a new effective alternative to conventional management of calciphylaxis.

Stepping Toward Prevention of Limb Loss in Diabetics; Establishing a Limb Care Clinic in Nauru: 364

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Haemodialysis Unit, Nauru
Mechelle K Seneviratne,
Monash Medical Centre, Australia

Nauru Haemodialysis Unit is unique, set up as one of three Pacific nations with haemodialysis facilities for patients with stage V Chronic Kidney Disease (CKD).

Nauru has the highest prevalence of adult Type 2 diabetes as primary cause of renal disease. A visit in November 2006 was undertaken as part of the AUSAID Pacific Island Project (PIP).

An aim of this visit, to develop and implement a limb care clinic to improve vascular health of limbs associated with diabetes, to be undertaken by Nauru haemodialysis staff.

The Nauru haemodialysis population consists of 23 patients, 13 males and 12 females. There were 21 with diabetes, 5 amputees, 11 who smoked and 16 with hypertension.

A limb care clinic was developed and implemented by the visiting nephrology nurse and run jointly with haemodialysis staff. All haemodialysis patients were given an appointment to attend the clinic for limb assessment and care. 10/23 patients attended the clinic, 6 females and 4 males, 4/10 attendees had amputated limbs.

Basic equipment which included basins, nail clippers and sorbolene cream were purchased locally. Assessment included feet and hands for pulses, capillary return, warmth, sensation, movement, calluses, rashes and ulcers. Patients received a foot soak, pedicure, manicure, and stump check for amputee patients.

A future goal for this clinic is to minimise limb amputations, through improved vascular health of limbs with regular ongoing assessment and care.

An aim of the visit was to provide access to information in haemodialysis trends across Australasia through RSA membership has been achieved.

Pauline D Byrne,
Wollongong Hospital, Australia

Illawarra Health has amalgamated with South Eastern Sydney Health Service. It provides Renal Services to the people of the Illawarra and Shoalhaven region. Over the last five years, the Illawarra has had rapid growth in both outpatient services and demand for haemodialysis treatment delivery. This growth is not isolated to the Illawarra, and the impact may be reflected in the choice of dialysis options for our patients. This presentation will examine data and issues currently related to treatment options for patients.

Data will illuminate: Growth in outpatient services and haemodialysis treatment delivery in comparison with other renal services within South East Sydney Illawarra Area Health Service, age range of our patient population's, patient numbers awaiting transplantation, pre-dialysis data related to degree of renal impairment per MDRD eGFR. There are large numbers of patients with eGFR < 15 mls/min. Treatment issues include: advance care planning and documentation, patient's cognition, age, and choice of treatment, timing of access placement, patient's support services at home or hostel care. As there is limited space in both incentre and satellite haemodialysis units, the focus is and will be, to continue to encourage home therapies.

In conclusion, communication and co-ordination between all members of the renal team remains vital, as identifying priority and implementing treatment plans for our large and growing patient population. Revisiting workforce numbers may need to be addressed in the home dialysis arena, to provide support, education and training required for patients and carers. In conclusion, communication and co-ordination between all members of the renal team remains vital, as identifying priority and implementing treatment plans for our large and growing patient population. Revisiting workforce numbers may need to be addressed in the home dialysis arena, to provide support, education and training required for patients and carers.

Innovation - Bone Vascular Syndrome Coordinator: 366

Jenny Beavis,
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Renal bone disease is evident in most CKD patients with eGFR < 60 ml/min (1). Historically, renal bone disease focussed on the impact of parathyroid hormone on bone turnover. Contemporary evidence indicates that hypercalcaemia and subsequent vascular disease, collectively termed bone vascular syndrome (BVS), affords the biggest contribution to CKD mortality (2). Hence, clinical focus has moved towards the relationship of bone disease, vascular calcification and cardiovascular events.

In 2006, recognising the importance of BVS, North West Dialysis Service (NWDS) appointed a Bone Vascular Syndrome Coordinator (BVSC).

The primary BVSC objectives include to:

- Advance staff and patient understanding of bone and vascular disease
- Facilitate and promote preventative strategies and clinical research
- Formulate evidence-based protocols and BVS pathways
- Align, monitor and analyse related blood tests to facilitate meaningful analysis
- Maximise the benefits of contemporary therapies.

The BVSC appointment has provided a dedicated focus for the improvement of BVS patient outcomes. In the first 12 months, the role has enabled collation of baseline data with multidisciplinary analysis, confirmation of key objectives, establishment of meaningful key performance indicators and integration of nursing expertise into BVS research. These steps enable the value of the role to be measured over time. The primary challenge to date has been prioritising the many opportunities that this position offers to improved outcomes. Ongoing refinement of the BVSC role in conjunction with implementation of evidence-based interventions will facilitate a more holistic approach to BVS at NWDS.

Reference - CARI guidelines.

Jenny L Best,
Princess Alexandra Hospital, Australia

Chronic Kidney Disease (CKD) and its treatment dramatically impacts on patients' lives and may precipitate physical, psychological, social and sexual difficulties. Often as we strive to deliver optimal dialysis treatment, the patient's sexuality and needs are overlooked. Sexuality is multifaceted and includes how people feel about themselves and communicate with others, willingness to build relationships and physical contact. Sexual health and well being is recognised as essential for a person's identity and capacity. For this reason, sexuality should be discussed with patients as part of routine care.

Some patients never experience sexual problems, however many males with CKD endure impotence and lack of libido, while females may experience lack of sexual desire, lowered satisfaction and infertility. There are numerous causes of sexual dysfunction in patients with CKD including poor nutrition, anaemia, anxiety, depression, as a side-effect of anti-hypertensive medication and reduction in hormone production. Once identified, many of the causes of sexual dysfunction can be treated.

There is abundant literature to support the importance of sexual health education. Unfortunately, studies have highlighted that health care professionals often feel inadequate in addressing this topic for a number of reasons including lack of 'sex' education, embarrassment, culture, religion or a conservative attitude. As part of our care we need to develop an awareness of the importance of sexuality, and be motivated to acquire knowledge and skills to address sexual problems as part of our routine practice.

Against the Odds, Motherhood Becomes a Reality for a Woman With Type 1 Diabetes and Renal Failure, Receiving Haemodialysis: 368

Joanne L Wilkinson,
Royal Hobart Hospital, Australia

The rate of pregnancy in renal patients of child bearing age on dialysis is 1-7% (Souqiyeh, Huraib, Saleh & Aswad 119, cited in Hou, 1998 & Holley & Reddy, 2003) and 40% of these women will give birth to a live infant (Hou, 2001; Toma, Tanabe, Tokumo, Kobayashi & Yagisawi, 1999; European Dialysis and Transplant Association, cited in Chao et al, 2002). Increased perinatal mortality and foetal malformation are associated with unplanned pregnancy in the woman with both types 1 and 2 diabetes (McElduff, Cheung, McIntyre, Langstrom, Oats, Ross, Simmons Walters & Wein, 2005). When the nursing staff in our unit was faced with the unexpected pregnancy of our youngest female patient who carried the additional burden of type 1 diabetes, we realized we were already in the process of managing a high risk pregnancy on dialysis. Our patient had suffered the loss of a baby 2 years earlier due to preeclampsia. Our dedicated, experienced nursing staff, knew immediately the risks evident for this woman and her baby. We began the development of a plan of care for our pregnant patient. Gathering of information and guidance was limited to a handful of international journal articles, and the very valuable shared experiences of other Australian units' approaches to dialysis prescription, foetal monitoring during dialysis and the involvement of the multidisciplinary team. Our efforts in maintaining a continuously revised plan of care, while offering constant support and encouragement to our patient who so desperately wanted a baby, were favourably rewarded. Motherhood became a reality for our patient.

Using Knowledge to Safeguard our Nations - A Collaborative Approach to Vascular and Renal Health in Aboriginal Communities within the Countries of North-Eastern NSW: 369

Lesley Salem,
Lower Hunter New England Area
Health Service, Australia

Introduction:

There were approximately 483,990 Indigenous people living in Australia in 2004. Death rates for Indigenous males and females are approximately four times higher than those of Non-Indigenous people.

A culturally appropriate, community-based CKD and ESKD treatment strategy aimed at retaining quality of life should be developed as part of a holistic approach to kidney disease. Such a strategy would be entirely consistent with agreed national strategies for chronic disease prevention and management.

No broad or unified screening program exists in NSW for determining renal risk. Flowing on from this, no community-based, unified programs for intervention to manage identified renal risk are currently in place.

Method:

709 Aboriginal people residing in the Hunter New England Area Health Service were screened for the prevalence of risk factors for CKD as part of developing a holistic strategy to maintain kidney health and address ESKD.

Results:

Chronic kidney disease (CKD) is over-represented in Indigenous communities of Australia. Screening for CKD is necessary and achievable. Early detection of CKD allows for interventions targeting regression or remission. Earlier intervention is likely to prevent premature death and disability due to cardiovascular disease and prevent End Stage Kidney Disease requiring dialysis.

There are a range of sustainable and highly cost-effective screening options suitable for community use. Amongst these options are: increased clinical recognition by primary health care providers, spot ACR testing, estimation of GFR and diabetes screening. Health workers with varying levels of clinical competency can use these methods.

Benefits of Multidisciplinary Community Based Pre-Dialysis Support and Education: 370

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Rockhampton Health Service District (RHSD) is facing a significant rise in the number of patients requiring renal replacement therapy, dialysis. Between 2004 and 2006 the number of patients requiring dialysis increased from 59 to 84, a 42 percent increase. This increasing prevalence as well as supporting international data predicting a sudden rise in CKD has inspired RHSD to approach CKD from a new angle creating enhanced CKD services.

In 2004 RHSD initiated a project to determine deficits within renal services. Outcomes highlighted inadequate pre-dialysis education and support for patients with CKD. RHSD implemented new services aimed at incorporating a multidisciplinary approach to enhance patient management across the continuum of CKD, incorporating community based prevention. Changes to client services were assessed by a qualitative survey of 20 patients who commenced dialysis between 2006 and 2007. The focus was on perceived satisfaction with pre-dialysis services and ease of transition to dialysis.

Results revealed a number of themes. Many patients were satisfied with level of education received before dialysis and felt physically and emotionally better since commencement. Some patients reported decline in emotional status after starting dialysis, and a number of patients felt less physically well. Several reported that they required more hands-on exposure to dialysis units and the dialysis procedure.

To conclude, patients appreciate education and support prior to commencement of dialysis. The majority felt they had improved physical and emotional health through pre-dialysis preparation. Exposure to dialysis units and fellow end staged CKD patients also proved beneficial for a favourable outcome.

Emotional Wellbeing. A Policy!!! The development and Implementation of Clinical Supervision for Haemodialysis Nurses: 371

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St Vincent's Health, Australia
Belinda Wilson,
St Vincents Health, Australia

Background:

A survey to examine the emotional wellbeing of the haemodialysis nurse showed a significant need for better, more structured support for the nurse within the haemodialysis setting, both metro and rural. There was also strong evidence from the feedback that nurses support nurses.

Aim:

A policy for Clinical Supervision was developed to acknowledge and formalise the emotional support systems that had already existed. Clinical Supervision was defined as "a formal process of professional support and learning which enables individual practitioners to develop knowledge and competence, assume responsibility for their own practice, and enhance consumer protection and safety of care in complex situations" (NHS management Executive 1993)

Method:

A working party consisting of staff and management was set up to develop guidelines and criteria for implementation. A clear distinction was made between clinical supervision and preceptorship or mentoring. It was decided that the supervision would happen in pairs, staff were encouraged to choose their own "buddy" where practicable. Boundaries of the supervision relationship were discussed. Confidentiality and respect was to be maintained. Specific times and venue allocated. Journal writing was encouraged. A discussion template was offered for use during supervision sessions. The policy was made available to all metro and rural dialysis units within the healthcare network and discussed at satellite nurse unit managers meeting.

Evaluation:

A timeframe was set for evaluation and feedback. Evaluation was through focus group discussion.

Have you Seen the New - "Vax Suction Machine"?: 372

Christine A Bond,
Princess Alexandra Hospital, Australia

Our Renal Inpatient ward has observed an increase in renal patients being admitted for diabetic related conditions e.g. leg ulcers, amputations, debridements and calciphilaxis.

Our renal patients are requiring more General and Vascular Surgery and we are now regularly using this "Vax Suction Machine" and its dressings on our renal patients.

After using the "Vax suction machine", we observed quicker wound healing which enabled us to discharge patients home sooner. The improved wound healing decreased the patients average length of stay. With the introduction of the portable "Freedom Vax suction machine" and its dressings we can discharge patients home even sooner.

Feedback from our renal patients was positive. The patients using the portable "Freedom Vax suction machines" were happier because they were able to be discharged home, were able to mobilize with the portable machine and wounds were healed in less time.

All parties concerned benefit from the use of this product because its primary advantage is to reduce wound healing time. The patient benefits by an earlier discharge. The hospital benefits by shorter hospital stays and less occupied bed days.

High Panel Reactive Assay with Positive Crossmatch; No longer an Obstacle for Future Transplantation: 373

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Kristy Rea,
Monash Medical Centre, Australia

Renal transplantation has progressed rapidly over the last 50 years, now considered the most appropriate treatment for patients with stage 5 Chronic Kidney Disease (CKD). Each year 40,000 patients worldwide receive renal transplants. At present there are approximately 1500 patients on the Australian waiting list (ANZData 2005), only about 240 will receive a cadaveric kidney transplant.

This situation presents an increase in live donation. A successful transplant donor and recipient should possess a negative T & B cell crossmatch with a 0% Panel Reactive Assay (PRA), significantly decreasing the risk of acute allograft rejection. However the future of transplantation is no longer obstructed by these factors. If potential recipients can be successfully desensitized there is no limit to the possible donor/ recipient matches, thus increasing the number of potential transplants.

A positive crossmatch and high PRA was experienced by a patient at Southern Health awaiting a living non-related transplant. This person's PRA increased to 57% post blood transfusion. This significant increase of pre transfusion levels resulted in a positive crossmatch toward the donor. The patient was enrolled, prior to transplantation, into a study now in progress at Southern Health. This study aims to evaluate the use of Rituximab pre-transplantation along with the current desensitisation protocol of plasma exchange, intravenous immunoglobulin and IL-2 induction.

This poster describes the desensitisation protocol used at Southern Health for the management of potential transplant recipients with a positive crossmatch and a high PRA, hopefully decreasing the risk of rejection as transplantation moves into the future.

ABO Incompatible Transplants: A Nephrology Nurses Perspective: 374

Peter Sinclair,
John Hunter Hospital, Australia
Andrew Hansen,
John Hunter Hospital, Australia

ABO incompatibility has provided a significant hurdle in solid organ transplantation for clinicians and patients alike. Hunter New England Health has previously turned down approximately 30% of potential living kidney donors due to ABO incompatibility.

The North West Dialysis Service reported the first treatment in Australia utilising the Glycosorb ABO Column in 2005 as a method to support successful ABO incompatible transplantation. Herein, we describe our experience, from a nursing perspective, at the John Hunter Hospital, Newcastle in taking our first steps toward overcoming the challenge of the ABO histo-blood group barrier.

In March 2007, the nephrology team devised a pretransplant conditioning regime for an A -> O renal transplant that included haemodiafiltration second daily, plasmapheresis and ABO immunoadsorption utilising the Fresenius 4008S haemodialysis machine and the Glycosorb ABO column (Glycorex transplantation, Lund, Sweden). We dedicated one experienced renal nurse to provide primary care for all extracorporeal therapies, which promoted continuity of care and proved invaluable in terms of communication between the renal and transplantation teams. The nursing team was required to redesign the extracorporeal pathway to incorporate the ABO column. Utilising antigen specific immunoadsorption technology, from a nursing perspective, enabled us to provide a safer treatment for our patient without the potential side effects that may be encountered with non-selective modalities.

The use of the ABO immunoadsorption column has helped overcome some of the challenges that the ABO histo-blood group system presents and will potentially increase the donor pool available to our service.

Where there's smoke there's fire: The Pathogenesis of Goodpasture's Syndrome: 375

Michaela M Kelleher,
Prince of Wales Hospital, Australia

Goodpasture's syndrome was first described in 1919 it is an autoimmune disease characterised by alveolar haemorrhage and glomerulonephritis caused by circulating anti glomerular basement membrane (GBM) antibodies. The underlying aetiology of Goodpasture's syndrome remains a mystery, but it has been postulated that it most often develops in genetically susceptible people who smoke, but hydrocarbon exposure and viral respiratory infections are additional possible triggers. Environmental triggers, such as those mentioned above, expose alveolar capillary antigens to circulating antibody in genetically susceptible people, most notably those with Human Leucocyte Antigens – DRw15, DR4, and DRB1 alleles, Goodpasture's syndrome is also more prevalent in males than in females. Circulating anti-GBM antibodies bind to basement membranes, fix complement, and trigger a cell mediated inflammatory response, causing glomerulonephritis and / or pulmonary capillaritis.

It is the purpose of the following paper to discuss the clinical presentation, diagnosis and treatment of Goodpasture's syndrome and to present a case of a patient who developed Goodpasture's syndrome following smoke inhalation. Numerous hydrocarbons have been linked to Goodpasture's Syndrome of which smoke inhalation is one. Research has found that exposure to hydrocarbons and the onset of Goodpasture's Syndrome varies from minutes to years although most occurred in less than a year.

Cannulating Hanging Access Make Easy: 376

John H Yung,
Fremantle Hospital, Australia

Conventional vascular access are formed on the dorsal side of the extremities to make cannulation possible.

However, there are situation that make the job almost impossible. These vascular access are formed on the medial aspect of the upper arm or the thigh. Some patient can extend their limb sideways so the nurse can cannulate it. But it is not always easy and damage to the vascular access often happen. Eventually the vascular access was failed prematurely due to failed attempt during cannulation.

While stress level on both the nurses and the patients are high, there is no easy solution for such situation. And many a time the patient has to get an unwanted Hickman line insertion to solve the access issue.

By an accidental discovery in the Renal Unit of the Fremantle Hospital, such vascular access can be positioned and cannulation become easy. It is simple to use and cost almost nothing, the vascular access can be needled without the aid of an ultrasonic equipment. The patient feels comfortable during the procedure and won't be afraid of being cannulated with difficulty. And the nurse feels more confidence when approach such vascular access.

Post Dialysis Cardiac Incidence in the Chronic Renal Failure Patients: 377

John H Yung,
Fremantle Hospital, Australia

The three major cardiac risk factors for renal patients are hypocalcaemia, hypoalbuminaemia and anemia. Most chronic renal failure patients present to the renal unit with at least two out of three listed problems. During haemodialysis, Calcium in the dialysate is use to maintain the serum calcium level for the cardiac stability. It is also use to treat people with renal patient who suffers from hypercalcaemia. The prefer calcium contents has changed over the years. Under the concept of preventing the renal bone disease, the use of the lower calcium dialysate is more and more popular. However, such approach for renal patients with hypocalcaemia, hypoalbuminaemia are challenging. There were cases which the patients presented similar blood results, but with a different approach and presented with different outcomes. The higher in calcium in the Dialysate strongly support the sustainable outcome of the treatment. With retrospective case study, we can almost identify those who would experience cardiac complication after dialysis, and those who would survive the first few renal replacement therapies. In the Fremantle Hospital Renal Unit, most physicians agreed to use dialysate with 1.5mmol/l of calcium for those patients with hypocalcaemia and hypoalbuminaemia. And most patients can tolerate the initiation of dialysis without post dialysis cardiac incidence.

Diuretic Renal Scintigraphy: Radionuclide Evaluation of Urinary Tract Obstruction: 378

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The diagnosis and management of urinary tract obstruction is an important problem in both pediatric and adult. Renal scintigraphy is a noninvasive procedure using ^{99m}Tc -DTPA I.V. followed by dynamic imaging under the Gamma Scintillation Camera. We performed routine ^{99m}Tc -DTPA study in 53 patients in the dose of 5-10mCi in children and 15-20mCi in adults in patients of urinary tract problems.

The present study comprises of a total number of 53 patients underwent ^{99m}Tc -DTPA diuretic renal scintigraphy for evaluation of urinary tract obstruction and functions with the age range of 3 months to 70 years of male and female. Each pt's were evaluated for its anatomy, physiology, functions, hydronephrosis and drainage patterns whether obstructed or non-obstructed.

Urinary tract obstruction can lead to severe impairment of renal functions, which may become irreversible. Renal damage depends on the severity and duration of obstruction and complete urinary tract obstruction may lead to permanent renal damage in less than one week, so significant obstruction should be identified promptly for early correction. Functions were assessed with the help of scintigraphy images (arterial blood flow, renal perfusion, cortical uptake and excretion) and renogram curves of each kidney, whether normal, obstructed or non-obstructed.

Total number of patients were 53.

32/53 Normal. 12/53 Obstructed and 13/53 Non Obstructed.

Diuretic scintigraphy is an effective diagnostic modality for early detection of urinary tract obstruction and abnormalities of parenchymal functions.

Keywords: ^{99m}Tc -DTPA, Renal Scintigraphy, Renal, mCi, Gamma Camera

A First Timers Experience with Renal Research: 379

Michaela M Kelleher,
Prince of Wales Hospital, Australia

Background:

As two beginners in the role of Renal Clinical trial coordinators we had a simplistic desire to learn more about renal research, that was all! Did I get in over my head?

Objectives:

Learn and expand horizons from the research process. What did that mean? How was that going to help clinical practice? How do research and nursing meet?

Methods:

1. Accept a Renal Research Nurse Coordinator job for 1 year (Part-time)
2. Document experience
3. Highlight important learning tools to pass on to future renal nurse researchers

Results: Positive and negative outcomes listed

Conclusion:

To be emphasised: The research process, trials and the tribulations have been worth it!

The Aranesp SureClick - Experience Program: 380

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Launceston General Hospital, Australia

The Aranesp SureClick™ EXPERIENCE program was designed to provide comprehensive education and support for both Healthcare Professionals and patients when using Amgen's new pre-filled pen called SureClick™. Aranesp® SureClick™ has been available in Australia since 1st August 2006. Twenty three Chronic Kidney Disease patients were enrolled into the program. The program involved training of Healthcare professionals to ensure that patients received adequate training and support. This in-depth training package was delivered by an Amgen Biopharmaceutical Specialist. All 23 patients were provided with an education session on how to administer the Sureclick™ pen and were provided with a copy of the Aranesp® Consumer Medicine Information (CMI). Enrolled participants also received a step by step demonstration of how to administer the Sureclick™ injection. After starting the Sureclick™ pen, a follow up questionnaire was completed by 23 patients at approximately 6 months of using the Sureclick™ pen. Out of a total of 23 patients who commenced the Sureclick™ pen, 16 of these patients were still using the Sureclick™ pen. Seven of these patients had discontinued for the following reasons. Three of the patients never received the Sureclick™ pen due to commencing hemodialysis. Three patients had difficulty with the administration procedure involving the safety mechanism and returned to using the pre-filled syringes. One patient stopped as the required dose was not available in the Sureclick™ pen. These questionnaire results will be presented together with suggestions that the patients contributed.

Fabrys Disease - "A Patients Perspective": 381

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Royal Perth Hospital, Australia

Fabrys disease is a rare X-linked inherited lysosomal storage disorder, caused by deficiency of a lysosomal enzyme, with accumulation of lipids. Resulting in pain, fatigue, temperature intolerance, abnormal urine, gastrointestinal problems, and angiokeratomas. By the age of 30-50 years, this may be fatal for men.

Treatment was previously symptomatic. Enzyme replacement therapy became available in 2000, with lifelong fortnightly infusions. An international registry has been developed. Royal Perth Hospital has 6 patients: 3 men on enzyme replacement, and 3 women being regularly assessed.

One of these patients (Mr J) aged 28 years has kindly offered to tell us his story. He was diagnosed with Fabrys disease at the age of 15. Mr. J stated that the worst thing about having Fabrys is "I can't do as much physically, especially outside". After a relatively normal childhood, by his late teens physical activity was becoming difficult. Playing with his little daughter, "I can only play with her for a little while and then rest."

He has received 6 months of enzyme replacement, which has decreased some of his pain and gastric problems and stabilised his kidney function.

Mr. J would like to have another child, but would hate to have a son "who has to go through what I do." He "didn't hate Mum" for something she couldn't help, but "sometimes hate my brother for not having it." The genetics team here at Royal Perth Hospital has interviewed Mr. J and his mother for genetic testing and to offer support and information.

Effective Staph Aureus Decolonisation within both the Centre and Community Haemodialysis Populations proves to be Cost Effective and Prevents Secondary Complications from Staph Aureus Bacteremia: 382

Lee Walter,
Hunter New England Health, Australia

Multi-Resistant Staph Aureus (MRSA) is increasingly prevalent within the dialysis community. Effective Staph-Aureus decolonisation within acute and community haemodialysis populations has been discussed in the literature to be cost effective, while preventing secondary complications from Staph-Aureus bacteremia.

The fiscal cost to the health service associated secondary complications (line sepsis, and systemic bacteremia) far outweighs the cost of identifying and decolonising haemodialysis patients. More importantly the benefits to the patient include reduced hospital admission, and decreased need for access replacement.

In October 2006, a Staph decolonisation program was launched in the Southern Sector of Hunter New England Health Area Service for haemodialysis patients in the in-centre, satellite and home dialysis. The program includes bi-annual screening of all patients for both multi-resistant and multi-susceptible organisms within this population. Decolonisation commences immediately after the second confirming swab returns a Staph Aureus positive, as swabs are an insensitive measure. The initial screening involved 340 dialysis patients.

The program has used a decolonisation protocol of topical Triclosan and nasal Mupirocin for patients with multi-sensitive organisms, and for patients with multi-resistant organisms oral Fucidic Acid and Oral Rifampicin is added to prevent the systemic spread of the bacteremia. It is hypothesised that this decolonisation will decrease the possibility of this population succumbing to Staph-Aureus blood stream infections.



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Submission Deadline:
Thursday, 31 January 2008

Submission Notification:
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