

ABSTRACTS

29th EDTNA/ERCA Conference

European Dialysis and Transplant Nurses Association
European Renal Care Association

**8 – 11 July 2000
Lisbon
Portugal**

Journal Editor
Anna Marti i Monros
Hospital General
Servicio de Nefrologia
Avda Tres Cruces S/N
ES-46014 Valencia
Spain
Tel. +34 96 185 93 66
Fax +34 96 186 02 31
Email 106111.2270@compuserve.com

European Editorial Board
English edition: ISSN 1019-083x
Responsible editor
Helen Noble
94 Horn Lane
South Woodford
GB-Essex, E98 9AH
United Kingdom
Tel. +44 181 506 1261
Fax +44 181 505 7761
Email helen@hnoble.fsnet.co.uk

French Edition: ISSN 1019-0848
Responsible editor
Bertrand Belot
Hôpitaux cantonal Nephrologie
34, Rue Michel du Crest
1205 Genève 11
Switzerland
Tel. + Fax +41 22 347 01 84
Email bbelot@swissonline.ch

Dutch edition: ISSN 1019-0856
Responsible editor
Freddy Hardy
Kruisheideweg 52A
BE-3520 Zonhoven
Belgium
Tel. +32 11 81 42 58
Fax +32 11 30 84 48
Email 106111.2265@compuserve.com

German edition: ISSN 1019-0856
Responsible editor
Kai-Uwe Schmieder
Monumentenstrasse 24
DE-10965 Berlin
Germany
Tel. +49 30 785 2361
Fax +49 30 313 3803
Email kschmieder@compuserve.com

Spanish edition: ISSN 1019-0872
Responsible editor
Esperanza Vélez Vélez
Paseo Imperial 81 1F
ES-28005 Madrid
Spain
Tel. +34 91 364 1545
Fax +34 91 365 2727
Email remv@compuserve.com

Italian edition: ISSN 1019-0880
Responsible editor
Simona Negroni
Via Oberdan 12
IT-20011 Corbetta
Italy
Tel. +39 02 97 77 902
Fax +39 02 974 80007
Email 106111.2373@compuserve.com

Greek edition: ISSN 1019-0880
Responsible editor
Helen Panagiotaki
Meandrou 102
GR-14341 New Filadelfia/ Athens
Greece
Tel. +30 1 253 0750
Fax +30 1 253 0750
Email 114602.2332@compuserve.com

EDTNA/ERCA Journal is published 4 times a year in seven languages indicated above and delivered to all EDTNA/ERCA members. Individual non-members or institutional subscription requests are to be sent to the EDTNA/ERCA Head Office, Pilatusstrasse 35, Postfach 3052, 6002 Lucerne, Switzerland, Tel. +41 41 440 7555, Fax +41 41 440 3962, email EDTNA_ERCA@compuserve.com. Yearly subscription is EURO 44.00 for individuals and EURO 125.00 for institutions and is payable to the EDTNA/ERCA Bank Account no. 570.023.6EZ with the Union Bank of Switzerland, Pilatusstrasse 8, 6002 Lucerne, Switzerland, SWIFT code UBSWCHZH80A. Changes of addresses are to be directed to the Head Office too. Papers submitted for publication in the Journal must conform to Instructions to Authors and are to be sent to the Journal Editor. Opinions, views, statements, and comments that are expressed by authors are solely their own. These expressions do not necessarily concur with the positions and or opinion of the EDTNA/ERCA. All the divergent opinions and commentary are encouraged and welcomed. All letters to the Editor having been submitted for publication will be published unless otherwise stated. EDTNA/ERCA Journal content can be found on our Internet Homepage.
http://www.nephroworld.com/edtna_erca
© 2000 European Dialysis and Transplant Nurses Association / European Renal Care Association

ABSTRACTS

Table of Contents

Foreword / 3
Vorwort / 3
Avant-Propos / 4
Voorwoord / 4
Prólogo / 5
Prefazione / 5
Ἐποëοᾶοε / 6
Guest Speakers / 6
EDTNA/ERCA Executive Committee / 7
Key Members / 7
Journal Editors / 8
Newsletter Editors / 8
Education Board / 8
Research Board / 8
Dietitians' Special Interest Group / 8
Technicians' Special Interest Group / 8
Social Workers' Special Interest Group / 8
WWW Home Page Administrator / 9
Scientific Programme Committee / 9
2000 Chief Abstract Assessors / 9
Lisbon Conference Organising Committee / 9
Head Office and Conference Department / 9
Scientific Programme / 10

Abstracts

Guest Lecture / 16
Education / 18
Haemodialysis / 21
Paediatrics / 30
Peritoneal Dialysis / 31
Psychosocial Care / 32
Quality, Audit and Research / 36
Renal Nutrition / 40
Technology / 43
Transplantation / 44
Posters orally presented / 47
Posters / 53

Index

Author's Index / 60

Acknowledgement

We would like to acknowledge Cordelia Ashwanden as the Scientific Programme Coordinator Elect and Anna Marti i Monros as the Journal Editor in preparing the Abstract Book.



Foreword

Dear Friends and Colleagues,

Welcome to our first Conference of the New Millennium – we all seem to have survived the worst of the Millennium Bug and can now begin the task of looking to the future of Renal Care.

The Abstract Book lists both abstracts from our invited Guest Speakers and all selected abstracts submitted by members of our Association. The abstracts are set out in alphabetical order to assist you in finding the abstracts of the papers you will be hearing in the sessions you attend.

The programme has been compiled around the Conference Topics and each session will have contributions from differing professional backgrounds. Our Guest Speakers will be addressing a range of interesting subjects suggested to us by our members to support each of the Conference Topics and the overall Conference Theme.

Our task is both to give you new information and to reinforce the progress of Renal Care in those countries where renal programmes are still being developed. We have a purpose to innovate and to educate – so some sessions will combine innovation and reflection on current practice. Reflection on what we have done in the past and what we are currently doing for our patients is vital if we are to direct our innovations towards improving standards of care.

Sunny Lisbon beckons us to enjoy the science and art of our chosen clinical speciality and to experience the culture and ambience of this spectacular city. We hope that the stimulation of the Conference Sessions will give you a reason to enjoy to the full the delights of Lisbon.

Don't forget to complete all the evaluation forms to tell us what you like and what you would like more of.

On behalf of the Scientific Programme Committee, the Chief Abstracts Assessors, the Abstract Assessment Panels, the Education and Research Boards and the Special Interest Groups all of whom contribute to the programme, I wish you an enjoyable and interesting Conference.

See you in Lisbon!!

Pam Edwards

Scientific Programme Committee, Co-ordinator



Vorwort

Liebe Freunde und Kollegen

Willkommen zur ersten Konferenz im neuen Jahrtausend – die schlimmsten „Millennium Bugs“ haben wir wohl überlebt und können uns nun der Aufgabe widmen, die Zukunft der nephrologischen Pflege zu planen.

Das Abstractbuch enthält sowohl die Abstracts unserer Gastredner, als auch alle ausgewählten Abstracts der Mitglieder unseres Verbandes. Die Abstracts sind in alphabetischer Reihenfolge der Namen geordnet, um Ihnen das Auffinden bestimmter Abstracts von Vorträgen, die Sie besuchen möchten, leichter zu machen.

Das Programm wurde um die Konferenzthemen erstellt und jedes Referat bietet Beiträge aus verschiedensten beruflichen Sichtweisen. Unsere Gastredner sprechen über eine Reihe interessanter Themen, die uns von unseren Mitgliedern zur Vervollständigung des Konferenzinhalts und des Oberbegriffs der Konferenz vorgeschlagen wurden.

Unser Ziel ist, Ihnen neue Erkenntnisse zur Verfügung zu stellen und den Fortschritt in der nephrologischen Pflege in den Ländern zu verstärken, in denen sich nephrologische Programme noch in der Entwicklung befinden. Unsere Absicht ist die Innovation und die Aufklärung – deshalb werden einige Vorträge Innovation und Reflexion der aktuellen Praxis kombinieren. Reflexion über das, was wir in der Vergangenheit erreicht haben und was wir aktuell für unsere Patienten erreichen wollen, ist essentiell, wenn wir unsere Innovationen auf die Entwicklung von Pflegestandards ausrichten wollen.

Das sonnige Lissabon signalisiert uns, an der Wissenschaft und Kunst unseres gewählten klinischen Spezialgebietes Spaß zu haben und die Kultur und Atmosphäre dieser phantastischen Stadt zu entdecken. Wir hoffen, dass die Anregungen der Konferenzbeiträge ein Grund für Sie sind, die Annehmlichkeiten von Lissabon voll auszukosten.

Bitte vergessen Sie nicht, alle Fragebögen auszufüllen und uns mitzuteilen, was Sie mögen und wovon Sie gerne mehr hätten.

Im Namen des Beirats für das wissenschaftliche Programm, des Chief Abstract Assessors, des Abstract Assessment Panels, des Education und Research Boards und der Special Interest Groups, die alle zu diesem Programm beigetragen haben, wünsche ich Ihnen eine angenehme und interessante Konferenz.

Wir sehen uns in Lissabon!!

Pam Edwards

Beirat des wissenschaftlichen Programms, Koordinatorin

Avant-Propos

Chers Amis et Collègues

Bienvenu à notre première Conférence du nouveau millénaire. Il semble que nous ayons tous survécu au bug de l'an 2000, nous pouvons donc recommencer à nous soucier du futur des soins infirmiers en néphrologie.

Ce recueil des abstracts contient les résumés de nos deux speakers invités ainsi que tous les abstracts sélectionnés soumis par les membres de notre Association. Les abstracts sont par ordre alphabétique, selon le nom du présentateur pour vous aider à retrouver facilement les résumés des communications écoutées dans les sessions que vous aurez choisies.

Le programme a été construit autour des sujets de la Conférence et chaque session aura des communications de différentes origines professionnelles. Nos speakers invités traiteront des nombreux sujets intéressants proposés par nos membres comme sujets et thèmes généraux de la Conférence.

Notre tâche est de vous donner toutes les informations nouvelles et de renforcer les progrès des soins en néphrologie dans tous les pays où des programmes, en néphrologie sont en développement. Nous avons un but, innover et instruire, et certaines sessions combineront donc innovations et réflexions sur la pratique quotidienne. Réfléchir sur ce que nous avons fait dans le passé et sur ce que nous faisons actuellement pour nos patients est vital si nous voulons que ces innovations permettent une amélioration de la qualité des soins.

Une Lisbonne ensoleillée va nous faire aimer la science et l'art de notre spécialité, mais aussi nous faire découvrir la culture et l'ambiance de cette belle ville. Nous espérons, que les sessions stimulantes de la Conférence vous donnerons des raisons de bien profiter des joies de Lisbonne.

N'oubliez pas de compléter les formulaires d'évaluation pour nous dire ce que vous avez aimé et ce que vous, désireriez voir dans les conférences.

De la part de tout le Comité du Programme Scientifique:

responsables des abstracts, membres des commissions des abstracts, de l'éducation, de la recherche et des groupes d'intérêts spéciaux, ainsi que de tous ceux qui ont contribué à l'élaboration du programme, je vous souhaite une agréable et intéressante Conférence.

A bientôt, à Lisbonne!!

Pam Edwards

Coordinatrice, Comité du Programme Scientifique

Voorwoord

Beste vrienden en collegae

Welkom op onze eerste conferentie van het nieuwe Millennium – wij hebben het ergste van de gevreesde Millenniumbug overleefd en kunnen ons nu weer wijden aan de toekomst van de Nefrologische Zorg.

In het Abstractboek vindt u abstracts van zowel gastsprekers als ook alle geselecteerde abstracts die door de leden van onze vereniging ingezonden werden. De abstracts zijn in alfabetische orde gerangschikt om de scripties, die jullie zullen volgen, makkelijker terug te vinden.

Dit programma is samengesteld afgaande op de topics van de conferentie en iedere sessie zal bijdragen leveren vanuit verscheidene professionele achtergronden. Onze gastsprekers zullen een waaier van interessante onderwerpen, die door onze leden gesuggereerd werden, uitdiepen, zodat alle conferentietopics en het conferentiethema aan bod komen.

Het is onze taak om jullie nieuwe informatie te verschaffen en om de vooruitgang van de nefrologische zorg in de landen, op weg naar ontwikkeling, een zetje te geven. Ons doel is innovatie en educatie – daarom zal een aantal sessies innovatie en reflectie op de huidige praktijk gaan combineren. Reflectie op wat we gedaan hebben en op wat we tegenwoordig doen voor onze patiënten is vitaal om onze vernieuwingen aan beproefde zorgnormen te kunnen toetsen.

Het zonnige Lissabon helpt ons om van de kennis en van de wijze van onze verkozen klinische specialiteit te genieten, alsook van de cultuur en van de sfeer van deze spectaculaire stad.

Wij hopen dat de stimulus van de conferentiesessies de drijfveer zal zijn om de geneugten van Lissabon te leren kennen.

Vergeet niet jullie evaluatieformulieren in te vullen en vertel ons wat jullie nog meer wensen.

In naam van het wetenschappelijk programmacomité, van de hoofdabstractevaluatoren, van de abstractevaluatoren, van de opleidings- en researchraad en van de speciale interessegroepen, die allen een bijdrage aan het programma verzekeren, wens ik jullie een prettige en interessante conferentie.

Tot ziens in Lissabon!!

Pam Edwards

Coördinator van het Wetenschappelijk Programmacomité

Prólogo

Queridos amigos y colegas

Bienvenidos a la primera Conferencia del Nuevo Milenio – parece que todos hemos sobrevivido al temido efecto 2000 y podemos ahora centrarnos en el futuro del cuidado renal.

El Libro de Abstracts contiene los resúmenes de las conferencias de nuestros oradores invitados y todos los resúmenes seleccionados enviados por miembros de nuestra Asociación. Los resúmenes aparecen listados en orden alfabético para facilitar la búsqueda de los trabajos que escuchareis en las distintas sesiones.

El programa incluye trabajos de todos los temas de la Conferencia, y todas las sesiones tendrán contribuciones de los diferentes campos profesionales. Nuestros oradores invitados abordarán una variedad de interesantes temas sugeridos por miembros de la Asociación como apoyo de cada uno de los Temas de la Conferencia y su Tema Principal.

Nuestra tarea es ofrecer nueva información y reforzar el progreso del cuidado renal en aquellos países donde los programas renales están aun en vías de desarrollo. Tenemos como objetivo innovar y educar, de modo que algunas sesiones combinarán innovación y reflexión sobre la práctica actual. La reflexión sobre lo que hemos hecho en el pasado y lo que estamos haciendo en la actualidad por nuestros pacientes es vital si nuestras aportaciones e innovaciones tienen como objetivo la mejora de los estándares del cuidado.

La soleada Lisboa nos hará disfrutar la ciencia y el arte de nuestra especialidad y la cultura y el ambiente de esta espectacular ciudad. Esperamos que el estímulo de las sesiones os ofrezca un motivo para disfrutar todos los encantos de Lisboa.

No olvidéis completar los formularios de evaluación, de gran ayuda para saber que os gustó de lo ofrecido y sobre que más os gustaría escuchar.

En nombre de Comité del Programa Científico, el Presidente de Valoración de Abstracts y todo el Panel de Valoración, los Consejos de Educación e Investigación y los Grupos de Especial Interés, os deseo una interesante y agradable Conferencia.

¡Hasta pronto!

Pam Edwards

Coordinadora del Comité del Programa Científico

Prefazione

Cari amici e colleghi,

Benvenuti alla nostra prima Conferenza del Nuovo Millennio - sembra che tutti quanti noi siamo sopravvissuti al peggio del Millenium Bug, e possiamo ora dedicarci al futuro dell'Assistenza Nefrologica.

Il libro degli abstracts elenca sia gli abstracts form dei nostri relatori ospiti, sia tutti gli abstracts selezionati inviati dai nostri soci. Gli abstracts sono elencati in ordine di nome per aiutarvi a trovare l'abstract della presentazione che vorrete ascoltare nella sessione alla quale parteciperete.

Il programma è stato organizzato sugli argomenti della Conferenza ed ogni sessione darà un suo contributo da differenti esperienze professionali. I nostri Relatori Ospiti affronteranno una gamma di interessanti soggetti consigliati dai nostri soci, in supporto ad ogni argomento della Conferenza e al tema complessivo della stessa.

Il nostro compito è sia di darvi nuove informazioni, sia di rafforzare il progresso dell'assistenza Nefrologica in quei paesi dove i programmi nefrologici sono ancora in via di sviluppo. Il suo proposito è quello di innovare e educare - quindi alcune sessioni uniranno le innovazioni e le riflessioni sulla pratica attuale. La riflessione su cosa abbiamo fatto in passato e cosa stiamo attualmente facendo per i nostri pazienti, è vitale se ci accingiamo a dirigere le nostre innovazioni verso il miglioramento degli standards assistenziali.

La soleggiata Lisbona ci invita a godere della scienza e dell'arte della specialità clinica da noi scelta, e di sperimentare la cultura e l'atmosfera di questa spettacolare città. Speriamo che lo stimolo delle sessioni congressuali vi daranno una ragione per gioire dei pieni piaceri di Lisbona.

Non dimenticate di compilare tutte le schede di valutazione per farci sapere cosa vi piace e cos'altro vorreste.

A nome del Comitato per il Programma Scientifico, del coordinatore dei selezionatori degli abstracts, dell'Abstract Assessment Panels, del Comitato di Educazione Ricerca e dei Gruppi di Interesse Specialistico, che hanno tutti contribuito al programma, vi auguro una Conferenza piacevole ed interessante.

Arrivederci a Lisbona!!

Pam Edwards

Coordinatore del Comitato per il Programma Scientifico

Προλογος

Αγαπητοί Φίλοι και Συνάδελφοι

Καλώς ήλθατε στο πρώτο μας Συνέδριο της Νέας Χιλιετίας, καθώς φαίνεται πως καταφέραμε να ξεπεράσουμε το χειρότερο Ιό της Χιλιετίας και μπορούμε πλέον να διερευνήσουμε το μέλλον της παροχής Νεφρολογικής Φροντίδας.

Το Βιβλίο των Περιλήψεων περιέχει τόσο τις Περιλήψεις των προσκεκλημένων Επίσημων Ομιλητών μας, όσο και κάποιες επιλεγμένες περιλήψεις που υποβλήθηκαν από μέλη της Ένωσής μας. Οι Περιλήψεις αναγράφονται με αλφαβητική σειρά ονομάτων, ούτως ώστε να είναι εύκολη η ανεύρεση των περιλήψεων των συνεδριάσεων που θα παρακολουθήσετε κατά τη διάρκεια του Συνεδρίου.

Το πρόγραμμα συντάχθηκε σύμφωνα με τις Θεματικές Ενότητες του Συνεδρίου και κάθε συνεδρίαση περιέχει στοιχεία από τις διάφορες ομάδες επαγγελματιών. Οι Επίσημοι Ομιλητές μας θα αναφερθούν σε ένα μεγάλο εύρος από ενδιαφέροντα θέματα, που προτάθηκαν σε εμάς από τα μέλη μας, ενισχύοντας κάθε Θεματική Ενότητα του Συνεδρίου καθώς και το συνολικό Θέμα αυτού.

Καθήκον μας είναι να παρέχουμε σε εσάς τις νέες πληροφορίες και να προωθούμε την εξέλιξη της παροχής Νεφρολογικής Φροντίδας στις χώρες με αναπτυσσόμενα νεφρολογικά προγράμματα. Στόχος μας είναι η πρωτοπορία και η εξέλιξη - μερικές συνεδριάσεις συνδυάζουν την πρωτοπορία και τις επιπτώσεις αυτής στην καθημερινή πρακτική. Οι επιπτώσεις αυτών που εφαρμόζαμε στο παρελθόν και αυτών που εφαρμόζουμε σήμερα στους ασθενείς μας έχουν τεράστια σημασία, εφόσον σκοπεύουμε να κατευθύνουμε τις προσπάθειές μας προς τη βελτίωση των προτύπων παροχής φροντίδας.

Η ηλιόλουστη Λισσαβόνα μας καλεί να απολαύσουμε την επιστήμη και την τέχνη της κλινικής μας ειδικότητας και να γνωρίσουμε από κοντά τον πολιτισμό και το περιβάλλον αυτής της υπέροχης πόλης. Ελπίζουμε τα ερεθίσματα που θα λάβετε από τις Συνεδριάσεις του Συνεδρίου να σας δώσουν τη δυνατότητα να απολαύσετε την ομορφιά της Λισσαβόνας.

Μη ξεχάσετε να συμπληρώσετε όλα τα έντυπα αξιολόγησης προκειμένου να εκτιμήσουμε τις εντυπώσεις σας για το Συνέδριό μας.

Εκ μέρους της Επιστημονικής Επιτροπής του Προγράμματος, του υπεύθυνου Έκδοσης των Περιλήψεων, της Επιτροπής Αξιολόγησης των Περιλήψεων, του Εκπαιδευτικού και Ερευνητικού Συμβουλίου, των Ομάδων Ειδικού Ενδιαφέροντος και όλων όσων συνέβαλαν στην εκπόνηση του προγράμματος, σας εύχομαι ένα ευχάριστο και ενδιαφέρον Συνέδριο.

Ραντεβού στη Λισσαβόνα!!

Pam Edwards

Συντονίστρια της Επιστημονικής Επιτροπής του Προγράμματος

Guest Speaker

P.	Bernaert	Belgium
T.	Järvinen	Finland
H.	Jayasekera	United Kingdom
P.A.	Kalra	United Kingdom
B.S.	Krupa	United Kingdom
M.	Rivett	United Kingdom
M.	Rocek	Czech Republic
E.	Slatopolsky	USA
J.	Vanpellicom	Belgium
K.	Viljoen	United Kingdom
L.	Wallin	Sweden
B.	Willie	Germany

EDTNA/ERCA EUROPEAN AND TRANSPLANT NURSES ASSOCIATION EUROPEAN RENAL CARE ASSOCIATION

Executive Committee

Gemma Bircher (UK)	President
Waltraud Küntzle (D)	Immediate Past President
Nicola Thomas (UK)	President Elect
Doris Bahn Müller (D)	Treasurer
Paul van Malderen (B)	Secretary
Aase Riemann (NL)	Member
Maria Cruz Casal (ES)	Member
Rob Mutsaers (NL)	Member
Jean-Yves De Vos (B)	Co-opted member

Key Members

Marion Lammers	Key Member Mentor
Doris Rosenkranz	Key Member for Austria
Jef Struyven	Key Member for Belgium
Lusi Stephanova	Key Member for Bulgaria
Jitka Pancirova	Key Member for Czech Republic
Grethe Simonsen	Key Member for Denmark
Ritva Huttunen	Key Member for Finland
OPEN	Key Member for France
Christa Tast	Key Member for Germany
Anastasia Laskari	Key Member for Greece
Anne Mary Murphy	Key Member for Ireland
Sandro Geatti	Key Member for Italy
Eva Öyen	Key Member for Norway
Antonio Filipe Cristovao	Key Member for Portugal
Liljana Gaber	Key Member for Slovenia
Maria Antonia Alonso Perez	Key Member for Spain
Katarina Hemminger	Key Member for Sweden
Hedwig Maud Celosse	Key Member for Switzerland
Marion Lammers	Key Member for The Netherlands
Althea Mahon	Key Member for United Kingdom

Journal Editors

Anna Marti i Monros (ES)
Kai Uwe Schmieder
Bertrand Belot
Freddy Hardy
Esperanza Vélez Vélez
Simona Negroni
Helen Noble
Helen Panagiotaki

Journal Editor
Journal Co-Editor, German
Journal Co-Editor, French
Journal Co-Editor, Dutch
Journal Co-Editor, Spanish
Journal Co-Editor, Italian
Journal Co-Editor, English
Journal Co-Editor, Greek

Newsletter Editors

Rainer Bühler (UK)
Paula Ormandy
Anne-Marie Cadart
An Demol
Marisa Pegoraro
Ana Rochera Gaya
Marta Girak (Natmessnig)
Anna Zapraidou

Newsletter Editor
Newsletter Co-Editor, English
Newsletter Co-Editor, French
Newsletter Co-Editor, Dutch
Newsletter Co-Editor, Italian
Newsletter Co-Editor, Spanish
Newsletter Co-Editor, German
Newsletter Co-Editor, Greek

Education Board (EB)

Ursula Elfrich (CH)

Chairperson

Research Board

Elizabeth Lindley (UK)

Chairperson

Dietitians' Special Interest Group

Gavin James/Helena Jackson (UK)

Chairperson

Technicians' Special Interest Group

Frantisek Lopot (CZ)

Chairperson

Social Workers' Special Interest Group

Richard Dingwall (UK)

Chairperson

WWW Home Page Administrator

André Stragier (B)

Scientific Programme Committee

Pam Edwards (UK)

Scientific Programme Co-ordinator

Cordelia Ashwanden (UK)

Scientific Programme Co-ordinator Elect.

2000 Chief Abstract Assessors

Jean-Yves de Vos (B)

Richard Dingwall (UK)

Liljana Gaber (SL)

Gunnar Malmström (S)

Sally Taber (UK)

Christa Tast (D)

Franz Techert (D)

Lisbon Conference Organising Committee

Maria Saraiva

Conference President

Carlos Figueiredo

Member

Maria José Maia Cândido

Member

Ana Cristina Mesquita

Member

Maria Eulalia Leite Novais

Member

Head Office and Conference Department

Terrance Barkan

Head Office Manager

Nancy Barkan

Scientific Program Support

Marianne Marti

Assistant Head Office Manager

Martin Bühlmann

Finance / Bookkeeping

Marta Dutková

Membership Administration

Giulia Buligan

Administrative Assistant

Elly Grothof-Nouwen

Administrative Assistant

Scientific Programme

Sunday, 9 July 2000

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
09:00	<p>Diabetes – Innovations in shared care</p> <p>Karen VILJOEN (UK)</p> <p>Combined pancreatic and kidney transplantation</p> <p>Anita DIJKHUIZEN-OVERES (NL)</p> <p>The use of insulin pumps and the education of patients</p> <p><i>Chair: Nicola Thomas Christa Tast</i></p> <p>65 Post-transplant diabetes mellitus in renal allograft recipients</p> <p>Calic (SL)</p> <p>185 HD or CAPD – which is the best for the diabetic patients?</p> <p>Candido (PT)</p>	<p>CORPORATE EDUCATION SESSION</p> <p>HOSPAL</p> <p>Daily use of monitoring and biofeedback systems</p> <p><i>Chair: Paul Van Malderen</i></p> <p>Monitoring & biofeedback systems in practice</p> <p>Mr. Nicolas Goux</p> <p>Daily use of the Physio dialysis system: long term experience</p> <p>Mr. Comasia Pastore</p> <p>Daily dose quantification</p> <p>Mrs. Dominique Costeira de Castro</p> <p>Mrs. Claudine Renard</p>	<p>Business Meeting</p> <p>Social Workers SIG</p> <p><i>Chair: Richard Dingwall</i></p>	<p>Education Board Workshop</p> <p>Lars WALLIN (SW)</p> <p>Developing and applying practice guidelines – a national approach reviewed</p> <p><i>Chair: Ursula Elfrich Lynn Denning</i></p> <p>84 Career and speciality development following the basic renal course</p> <p>Murphy (IE)</p> <p>150 Competency based assesment equals competent practice</p> <p>Abbott (UK)</p>	<p>Business Meeting</p> <p>Technicians SIG</p> <p><i>Chair: Franta Lopot</i></p>
0:30	Coffee	Coffee	Coffee	Coffee	Coffee
1:00	<p>Evidence Based Practice</p> <p>Maria Teresa SANTOS-REBELO (PT)</p> <p>Evidence based practice and the need to reflect on everyday practice</p> <p><i>Chair: Maria Saraiva Anne Murphy</i></p> <p>164 What does 'elderly' mean in haemodialysis programmes.</p> <p>Gasso Bonvehi (ES)</p> <p>004 The social climate in the chronic haemodialysis unit as perceived by patients and nurses</p> <p>Vitri (IL)</p> <p>153 Evidence based practice – its progress!</p> <p>Wilkinson (UK)</p>	<p>Quality & Economics</p> <p>Research Forum</p> <p><i>Chair: Liz Lindley Tony Goovaerts</i></p> <ul style="list-style-type: none"> – Demographic Data – participating centres – Vascular Access 2 – Pre-treatment Counselling – Water T treatment 1 & 2 	<p>CORPORATE EDUCATION SESSION</p> <p>JANSSEN-CILAG</p> <p>Evaluation of current anaemia management</p> <p><i>Chair: Paula Ormandy</i></p> <p>ESAM (European survey of anaemia management) results</p> <p>Professor Fernando Valderrábano, (ES)</p> <p>RAM (Renal anaemia management), new instrument to improve patient outcomes</p> <p>Dr. Frédéric Collart (B)</p>	<p>Free Communications</p> <p>Issues in Transplantation</p> <p><i>Chair: Maria Cruz Casal Rainer Bühler</i></p> <p>183 Reaching out to Asia for living kidney donors</p> <p>Jain (UK)</p> <p>61 Assessment of potential living kidney donors.</p> <p>Hamilton (UK)</p> <p>189 Counselling on a living donor programme</p> <p>Egging (UK)</p> <p>52 An examination of the reasons for potential living donors failing to proceed to donation</p> <p>Trevitt (UK)</p> <p>157 The impending kidney transplant crisis for the ageing Asian population in the UK</p> <p>Randhawa (UK)</p> <p>113 Nutritional care of renal transplant recipients with hyperlipidaemia</p> <p>Mengerova (CZ)</p>	<p>Strolling Players (NL)</p> <p>An interactive approach to everyday problem solving</p> <p><i>Chair: Marion Lammers</i></p>
2:30	L A N G U A G E F O R U M S A N D L U N C H				

Scientific Programme

Sunday, 9 July 2000

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
14:00	<p>Specialist Education</p> <p>Dr. Miloslav ROCEK (CZ) Percutaneous intervention and vascular dialysis access – state of the art</p> <p><i>Chair: Franta Lopot Anastasia Laskari</i></p> <p>198 Evaluation of single needle, double pump dialysis system as compared to double needle, single pump dialysis Wagner (IL)</p> <p>45 The influence of urea redistribution on Kt/V estimation Vagiotas (GR)</p> <p>31 Effects of a vitamin E coated new dialytic membrane on lipoxidation Lavanna (IT)</p> <p>166 Assessment of blood pressure in haemodialysis patients Tzekas (GR)</p>	<p>CORPORATE EDUCATION SESSION</p> <p>GAMBRO</p> <p>Quality Dialysis – the role of the fluid</p> <p><i>Chair: Jef Struyven</i></p>	<p>Business Meeting</p> <p>Dietitians SIG</p> <p><i>Chair: Gavin James</i></p>	<p>Hi-tech/Low-touch ?</p> <p>Dr. Pascale BERNAERT (B)</p> <p>Care of the geriatric patient in chronic renal failure –Clinical approaches & treatment benefits</p> <p><i>Chair: Jean Yves De Vos Aase Riemann</i></p> <p>160 Physical activity in elderly dialysis people – intention, practice and outcome Krause (DE)</p> <p>50 81 years young – old enough for a transplant? Jenkins (UK)</p> <p>176 Gastrostomy feeding in adults receiving peritoneal dialysis Ruddock (UK)</p> <p>121 Is RRT always the best option for patients approaching ESRF? Tibbles (UK)</p>	<p>Poster Presentations</p> <p><i>Chair: Alois Gorke Ray Trevitt</i></p> <p>41 The use of blood temperature monitors to measure Recirculation Cassidy (UK)</p> <p>90 An alternative approach to pain control in PD Owen (UK)</p> <p>123 Dialysis quality or patient quality of life? Zugic (AT)</p> <p>125 Patient nurse interaction and the effect on patient satisfaction of life on HD Hodnett (UK)</p> <p>192 Myoglobin clearance during continuous HF and continuous HD Heijnis (NL)</p> <p>002 A new dialysis device in 'busy' network. Raimondo (IT)</p> <p>147 Using audit as a catalyst to implement universal precautions Harris (UK)</p>
15:30	Tea	Tea	Tea	Tea	Tea

A N N U A L G E N E R A L M E E T I N G

16:00

EDTNA/ERCA ANNUAL GENERAL MEETING 2000

Chair: Gemma Bircher, EDTNA/ERCA President

Agenda

Welcome by the President and Appointment of Scrutineers
 Approval of the 1999 AGM Minutes
 Presidents Activities and Progress Report
 Approval of 1999 Financial Report
 Results of Executive Committee Votes
 Introduction of new Executive Committee
 Education and Research Board Activities – Professional Development Task Force
 Motions
 Lifetime and Honorary Members
 Association Objectives 2000
 Future Conferences
 Introduction to Nice Conference 2001
 Any other Business
 Date and Venue for next AGM

Scientific Programme

Monday, 10 July 2000

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
9:00	<p>Hi-tech/Low-touch ? Dr. Jean-Marie BILLIOUW (B) Quality assessment in dialysis <i>Chair: Jean Pierre Van Waeleghem Jean-Yves de Vos</i></p> <p>120 Coping with dialysis, focus on the partner in guided group sessions Van Sandwijk (NL)</p> <p>163 Monitoring of native fistulae in our centre with dilution method (TRANSONIC™) Contrino (IT)</p> <p>97 Early PET results – a reliable indicator for treatment modelling. Thorn (UK)</p> <p>39 Subjective health state of the HD patient Mróz (PL)</p>	<p>CORPORATE EDUCATION SESSION F. HOFFMANN-LA ROCHE Improving the nurse-patient relationship: a multi-faceted approach <i>Chair: Doris Bahn Müller</i></p> <p>This unique interactive session with a multi-disciplinary panel will discuss:</p> <ul style="list-style-type: none"> – Problematic communication barriers in the nurse-patient relationship: how to identify and overcome them; – European best practice guidelines: how do they relate to our work in dialysis nursing; and – Putting these strategies and guidelines into practice: Experience and advice from an expert nurse panel 	<p>Specialist Education Education Board Forum <i>Chair: Ursula Elfrich Nicola Thomas</i></p> <ul style="list-style-type: none"> – EB Project Updates – Future Projects – Implementation Strategies 	<p>Free Communications Issues in renal care management <i>Chair: Liljana Gaber Gavin James</i></p> <p>161 Prevalence of early renal disease in a high risk cohort Ellis (UK)</p> <p>12 Writing a policy for the HD Unit to ensure comprehensive performance Zur (IL)</p> <p>152 Estimating safe and appropriate staffing levels for renal care Edwards (UK)</p> <p>173 Influencing healthcare in Southern Africa – an educational link Jackson (UK)</p> <p>179 The role of the clinical facilitator bridging the practice-theory gap Hyslop (UK)</p> <p>27 Breaking down the barriers of a dialysis unit Hettinger (NL)</p>	<p>Social Worker SIG Workshop Tarja JÄRVINEN (FI) Caring and touching – sexuality and care Althea MAHON (UK) Should renal patients have sex? Theodôr VOGELS (NL) Introducing a new EDTNA/ERCA psycho-social handbook <i>Chair: Richard Dingwall</i></p>
0:30	Coffee	Coffee	Coffee	Coffee	Coffee

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
1:00	<p>Evidence Based Practice Prof. Eduardo SLATOPOLSKY (USA) Pathogenesis of secondary hyperparathyroidism <i>Chair: Gemma Bircher Marianne Vennegoor</i></p> <p>114 Regular dietary review of haemodialysis patients reduces hyperphosphataemia and calcium-phosphate product Bartram (UK)</p> <p>24 Study of diurnal rhythm of parathyroid hormone secretion in HD patients McGee (UK)</p>	<p>Open Forum Dr. João DE SÁ (PT) Management of acute renal failure in the intensive therapy unit <i>Chair: Maria Saraiva Doris Rosenkranz</i></p> <p>007 'Yardim' means helping – experience report about an emergency operation after an earthquake Jüngel (DE)</p> <p>51 Immunoabsorption in highly sensitized renal transplant patients Mayer (AT)</p> <p>14 Cardiac output measurements during haemodialysis Krivitski (USA)</p> <p>139 The influence of the height of infusion bags on roller pump-controlled output volume Bijvoet (NL)</p>	<p>Free Communications Issues in haemodialysis management <i>Chair: Tony Goovaerts Jane Abbott</i></p> <p>29 Developing home haemodialysis selection criteria. Warrilow (UK)</p> <p>20 Home HD for the year 2000; a new approach to an old treatment Lunts (UK)</p> <p>25 An illustration of the effective management of HD adequacy Maclean (UK)</p> <p>32 Efficacy of domiciliary visits from a satellite unit; the HD patients' perspective Hyde (UK)</p> <p>26 'Both sides of the coin' – starting a patient on home haemodialysis Barrie (IL)</p> <p>155 The development of home care teams to improve the quality of pre-dialysis and dialysis care Meldrum (UK)</p>	<p>Fit for the Conference – Move and Relax – S NIEBERGALL (DE) <i>Chair: Ulla Winge</i></p> <p style="text-align: center;"><i>Please wear comfortable clothing</i></p>	<p>Open Forum Thomas WETTER (DE) Restless Leg Syndrome <i>Chair: Doris Bahn Müller Rob Mutsaers</i></p> <p>140 Latex allergy: a misjudged problem! Tas-de Haas (NL)</p> <p>10 Violent patient behaviour in the dialysis unit Argaman (IL)</p> <p>162 Sub-optimal response to EPO Kennington (UK)</p> <p>38 Study about cramp and its pre-disposing factors Martinez Ortiz (UK)</p>
2:30	Lunch	Lunch	Lunch	Lunch	Lunch

Scientific Programme

Monday, 10 July 2000

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
14:00	<p>Open Forum (Nutrition) George HARTLEY (UK) Nutritional status, delaying treatment and the risks of protein restriction <i>Chair: Gavin James Christa Nagel</i></p> <p>116 The nutritional intake of CAPD patients and the influence of subjective factors Jackson (UK)</p> <p>111 Development of a computerised nutritional screening tool for renal out-patients Gower (UK)</p> <p>110 The SGA, a method for the nurse team to evaluate the nutritional status of dialysis patients Julien (FR)</p> <p>175 Addressing equality through education – a study day Case (UK)</p>	<p>CORPORATE EDUCATION SESSION FRESENIUS MEDICAL CARE New horizons in dialysis technology – Innovations to improve patient outcomes <i>Chair: Christa Tast</i></p> <p>The session will highlight topics in HD and PD therapy delivery and intends to give answers to the questions</p> <ul style="list-style-type: none"> – How to deliver and monitor optimal haemodialysis treatment? – Can therapy acceptance and patient compliance be increased in peritoneal dialysis? 	<p>Poster Presentations <i>Chair: Alois Gorke Ronald Visser</i></p> <p>118 Evaluation of the effects of a memorial service on bereaved relatives and carers Hallett (UK)</p> <p>101 The use of an evaluation tool to facilitate equipment adjudication Denning (UK)</p> <p>44 Employment status at start of dialysis and 6 months later Reuselaars (NL)</p> <p>143 Improving care and efficiency: the introduction of appointment times in a haemodialysis unit – a case study Lunts (UK)</p> <p>141 Patient satisfaction with pre-dialysis information Trevitt (UK)</p> <p>151 Do we value national vocational qualifications within the renal unit? Abbott (UK)</p> <p>62 Differences in weight gain between haemodialysis and peritoneal dialysis patients after renal transplantation Schreurs (NL)</p> <p>64 Reflection as a tool to enhance the nurse-patient relationship Collier (UK)</p>	<p>Technician SIG Workshop Infection Control Heather JAYASEKERA (UK) Hepatitis C and HIV – the Clinical and Technical Perspectives <i>Chair: Maurice Harrington Franta Lopot</i></p> <p>009 Bye, bye chemical disinfection with canisters Pancirova (CZ)</p> <p>106 Self monitoring of microbiological levels in dialysis water Traeger (DE)</p> <p>107 Efficiency of dialysis heat recovery Marzougui (B)</p>	<p>Strolling Players (NL) An interactive approach to everyday problem solving <i>Chair: Marion Lammers</i></p>
15:30	Tea	Tea	Tea	Tea	Tea
16:00	<p>Hi-tech/Low Touch ? Marie RIVETT (UK) Rehabilitating the elderly and frail on renal replacement therapy <i>Chair: Richard Dingwall Anna Marti i Monros</i></p> <p>128 Improvements in care: a collaborative approach to rehabilitation Wilde (UK)</p> <p>165 Evaluation of long-term haemodialysis (greater than 10 years) Karabatakis (GR)</p> <p>129 The influence of family environment in the patient undergoing RRT Iborra Moltó (ES)</p> <p>006 The social profile and self-sufficiency of HD patients. Švandrlíková (CZ)</p>	<p>Infection Control Prof. Dr. med. B. WILLE (DE) Developing a hygiene plan for a renal department <i>Chair: Franz Techert Rob Mutsaers</i></p> <p>33 Hepatitis C Virus – the need for nurse education. Murray (UK)</p> <p>81 TB in the dialysis patient: a new-old problem Fedorowsky (IL)</p> <p>190 The change from ritualistic exit site cleaning and dry dressings to a hydro-polymer adhesive dressing in a children's renal unit Wittich (UK)</p> <p>194 How to start up the on-line therapy Jeuken-Mertens (NL)</p>	<p>Free Communications Issues in Patient and Staff education <i>Chair: Nicola Thomas Aase Riemann</i></p> <p>77 How to help the soul of dialysis nurses in the new millenium? Kremenova (CZ)</p> <p>134 Patient education and knowledge after 6 months of chronic dialysis treatment Nijman (NL)</p> <p>69 Creative educational programme as a way of enriching self-progress. Gavish (IL)</p> <p>146 The introduction of Clinical supervision within the Renal Unit Denning (UK)</p> <p>75 A patient education pathway into the millenium Fralely (UK)</p> <p>40 The need to care. Equating High Technology and dialysis patient needs. Ashwanden (UK)</p>	<p>Technical SIG Open Forum <i>Chair: Maurice Harrington</i></p> <p>Technical standards committee report Polaschegg (AT)</p> <p>Priorities for new guidelines Lindley (UK)</p> <p>Review of guidelines for vascular access Van Waelegem (B)</p> <p>Development of EDTNA/ERCA guidelines for water quality Lindley (UK)</p>	<p>Evidence Based Practice Dr. Eduardo SLATOPOLSKY (USA) Treatment of renal bone disease Seminar session <i>Chair: Marianne Vennegoor</i></p>

Scientific Programme

Tuesday, 11 July 2000

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
09:00	<p>Quality and Economics Bob KRUPA (UK)</p> <p>Using computer systems to predict treatment costs. <i>Chair: Pam Edwards Jitka Pancirova</i></p> <p>87 Computer-based nursing management of a peritoneal dialysis service Leypiziger (IL)</p> <p>91 Telemedicine for remote dialysis care. Quadri (IT)</p> <p>34 Patients' personal dialysis file, how effective has it been. James (UK)</p> <p>135 Disease monitoring and management: A nurses goal. Amadori (IT)</p>	<p>CORPORATE EDUCATION SESSION AMGEN</p> <p>The Dialysis Outcomes and Practice Patterns Study (DOPPS) – a worldwide haemodialysis study of treatment and patient outcomes including 5 European countries <i>Chair: Althea Mahon</i></p> <p>DOPPS: an international haemodialysis study D. Mapes</p> <p>1 year outcomes in DOPPS P. Held</p> <p>The role of the renal nurse in DOPPS M. Keen</p> <p>How to use DOPPS to measure a patient's quality of life: a fictitious case history D. Mapes</p> <p>Conclusion & Discussion P. Held</p>	<p>Basic Practice Workshop 1 Infection Control</p> <p>Prof. Dr. med. Burkhard WILLE (DE) <i>Chair: Franz Techert</i></p>	<p>Poster Presentations <i>Chair: Alois Gorke Jef Struyven</i></p> <p>003 Influence of the ultrafiltration and sodium profiled dialysis to Kt/V values Mehmedovic (BA)</p> <p>67 Effect of planned health education in HD patients who use EPO and Iron Gelmez (TR)</p> <p>73 Development of renal nurse education programmes Denning (UK)</p> <p>82 The use of workshops for providing pre-dialysis information Price (UK)</p> <p>98 The impact of an earthquake on peritoneal dialysis patients Özdemir (TR)</p> <p>130 The subjective sleep experiences of CAPD patients Lappin (UK)</p> <p>186 Needs for additional education Smolander (FL)</p> <p>83 What level of informed choice are patients given prior to deciding on treatment modality? Lee (UK)</p>	<p>Quality & Economics Werner PFINGSTMANN (DE)</p> <p>Quality management with ISO 9000 standards <i>Chair: André Stragier Marianne Vennegoor</i></p> <p>149 Change for the sake of change or development into the milleneum Burt (UK)</p> <p>187 Peritoneal dialysis – a competency based practice initiative Davies (UK)</p> <p>108 The role of the dietitian in supporting patients on a dialysis diet – a qualitative exploration of patients' experiences Sussman (UK)</p>
00:30	Coffee	Coffee	Coffee	Coffee	Coffee
1:00	<p>Evidence Based Practice Dr. Henry G. WATSON (UK)</p> <p>Modern approaches to anti-coagulation during Haemodialysis <i>Chair: Liz Lindley Despina Kontouli</i></p> <p>197 A new technique of citrate anti-coagulation in HD patients with bleeding disorders Kesters (B)</p> <p>133 Is heparin necessary to maintain the patency of HD catheters? A preliminary report of a randomised cross-over trial Hurst (UK)</p> <p>167 Antiplatelet therapy in HD Andrea Hernandez (ES)</p> <p>08 Anticoagulation and function of AV fistula in HD: mid-term comparison between standard heparin and fractionated heparin Bianchi (IT)</p>	<p>Infection Control Mr. Jef VANPELLICOM (B)</p> <p>Practical initiatives in the prevention of cross-infection <i>Chair: Jean Yves De Vos</i></p> <p>16 Survey of the microbiological quality of the dialysis water: the experience of our dialysis unit Pansini (IT)</p> <p>102 Ultra-violet irradiation: a cost-effective and safe tool to keep reverse osmosis of excellent bacterial quality! Stragier (B)</p> <p>60 Self-administration of IV gancyclovir for treatment of CMV Glyn (UK)</p> <p>169 Improving patient safety by minimising temporary line use Vass (UK)</p>	<p>Quality and Economics Mr. Gerard BOEKHOFF (NL) - (CEAPIR)</p> <p>Patients perspectives in discussions about quality. <i>Chair: Rainer Bühler Maria Eckford Marion Lammers</i></p> <p>35 Quantity versus quality. The ethics of the provision of RRT Ashwanden (UK)</p> <p>180 The grown-up patient – the new 'customer' in dialysis Hippold (DE)</p> <p>58 Japanese patients not seeking kidney transplants Nakahara (JP)</p> <p>74 Use of the Internet by patients looking for health information – a shift in the balance of power? Trevitt (UK)</p>	<p>Dietitians SIG Workshop George HARTLEY (UK)</p> <p>Assessment in nutritional status in the renal patient <i>Chair: Helena Jackson</i></p>	<p>Strolling Players (NL)</p> <p>An interactive approach to everyday problem solving <i>Chair: Marion Lammers</i></p>
2:30	Lunch	Lunch	CRP – PD Project Workshop	Lunch International Forum	Lunch

Scientific Programme

Tuesday, 11 July 2000

	Auditorium 1 translation	Hall 8a translation	Auditorium 5	Auditorium 3/4	Auditorium 2
14:00	<p>Specialist Education Dr. João RIBEIRO-SANTOS (PT)</p> <p>Isolating patients – The practical issues and the ethics. <i>Chair: An Demol Ray Trevitt</i></p> <p>72 Live donor information: the donor's perspective Jenkins (UK)</p> <p>68 Developing a learning package for the visually impaired patients for renal nurses Lethbridge (UK)</p> <p>193 Dialysis dose versus quality of life Lutters (NL)</p> <p>122 The demented patient in dialysis: support care needs Di Carlo (IT)</p>	<p>CORPORATE EDUCATION SESSION BAXTER</p> <p>Before your patient becomes a patient – an interactive simulation of the real-life challenge <i>Chair: Gemma Bircher</i></p> <p>This session proposes a highly innovative look at the factors that influence the way patients enter dialysis.</p> <p>In this interactive simulation, you will follow the patient's path to treatment and experience some of the many factors that impact the final choice of their therapy</p> <p>Carina Nilsson (Baxter Healthcare) Anita (A renal patient)</p>	<p>Free Communications Issues in quality of Care <i>Chair: Paul Van Malderen Geri Endall</i></p> <p>15 Changing machines – preparing patients for the dialysis technology of the 21st century Fawkes (UK)</p> <p>174 Monthly IV iron administration is effective and safe in deficiency in PD Revero (ES)</p> <p>119 The Pre-dialysis experience: are the needs of the individual being met? Andrew (UK)</p> <p>145 Quality monitoring of care: ask the patient De Vos (B)</p> <p>18 What are the benefits of Glucose containing dialysates for chronic dialysis patients? Struyven (B)</p> <p>17 Tailoring HD to the patient's need – ultrafiltration and sodium modelling for patients with dialysis hypotension Nenaydenko (IL)</p>	<p>Evidence Based Practice Dr Philip KALRA (UK)</p> <p>The application of evidence to practice <i>Chair: Heather Jayasekera Maurice Harrington</i></p> <p>001 Clinical impact of the residual renal function in ambulatory division follow-up patients who start on regular dialysis treatment Taratufolo (IT)</p> <p>071 Pre-dialysis education: A group approach Soni (UK)</p> <p>109 Nutrition in renal disease: the nurses role Murray (UK)</p> <p>144 Multidisciplinary team working as an approach to facilitate seamless renal care Willis (UK)</p>	<p>Evidence Based Practice Dr. Henry WATSON (UK)</p> <p>Clotting problems in dialysis – questions and answers <i>Chair: Liz Lindley</i></p>
15:30	Tea	Tea	Tea	Tea	Tea

CLOSING CEREMONY

16:00

CLOSING CEREMONY

New Horizons – a shared vision for the future

Dr. David HUMES (USA)

Developing the bio artificial kidney

Presentation of Manuscript and Poster Scholarships

Care of the Geriatric Patient in Chronic Renal Failure – Clinical Approaches and Treatment Benefits

P. Bernaert
Dept. of Nephrology, Gent, Belgium.

CURRENTLY, THERE ARE AROUND ONE MILLION CHRONIC DIALYSIS PATIENTS worldwide. More than half of these are older than 65. For various reasons this is a fast growing population. When the start of dialysis is indicated, a distinction must be made between biological age with the third and fourth decade on the one hand, and a specific geriatric profile on the other hand, which implies an adequate gerontological knowledge. Besides the patient-directed choice of the best tolerated epuration technique, the specific treatment of age-linked polypathology as well as the appropriate approach of inter- and intradialysis related problems regarding access and haemodynamics, are the best guaranties of success in this highest age dialysis group. By means of a multidisciplinary geriatric assessment, which makes it possible to carry out an objective analysis and observation from the somatic, psychic and social points of view, an ultimate objective is achieved: the improvement of quality of life by means of rehabilitation. The survival of elderly dialysis patients has favourably evolved since the 90s after the introduction of EPO, bicarbonate dialysate, the monitoring of dialysis adequacy and support of prognostic and co-morbid factors. The problems surrounding dialysis drop-out is a sensitive and controversial matter in which well-founded communication with the patient, the family, the dialysis team, domestic care and the general practitioner is vital. "Add life to years and not years to life" remains a challenge for every nephrologist.

Using Computer Systems to Predict Treatment Costs

B. S. Krupa
Royal Shrewsbury Hospital, Shrewsbury, United Kingdom.

ONE OF THE FUNDAMENTAL PROBLEMS with predicting treatment costs in renal dialysis is relating and quantifying practical detail to paper. As well as requiring numeracy and information technology (IT) skills, an intimate and detailed understanding of practical logistics is vital in order to apportion resources meaningfully and to cost services accurately. On our unit, senior renal nurses who had this balance of skills, were charged with the task of accounting and calculating treatment costs. This undertaking was made possible through a prior working knowledge of renal logistics backed up by the necessary software tools and a 'service framework' through which these skills would function. The IT applications commonly available at the time allowed the creation of three-dimensional computer models, vital for quantifying complex scenario's such as renal dialysis. This culminated in the development of a predictive revenue model. Along with this, supporting systems such as counting conventions, activity analysis and workload methodology were developed to support the model and feed it with data. In order to apply the predictions practically and effectively, the reporting format was tailored to the cost volume contracts in use at the time. Therefore, the very people who knew 'what to count' became experts at 'how to count' and were soon predicting costs consistently accurately to within 1% of actual. Backed up by comprehensive financial analysis, this process has helped manage the unit for the past nine years and divert resources back into direct patient care which would otherwise have been spent on non-clinical administration.

Caring and touching – Sexuality and care

T. Järvinen
Dialysis Unit, University Hospital, Tampere, Finland.

TECHNOLOGY HAS BEEN DEVELOPING RAPIDLY. It sets requirements for a nurse to have more technical skills than before. Accompanying technological development the effectiveness of dialysis treatment has also increased improving the patients' quality of life. Since the quality of life has been improved, the questions concerning the patients' sexuality have emerged. At present, finding answers to patients' questions concerning their sexuality has become an outstanding part of their holistic care. This places remarkable demands on a nurse and his/her understanding of the philosophy of holistic nursing. As to the philosophy of primary nursing, collaboration and relationship between a nurse and a patient should stand for the values of equality, confidence, and accountability. Atmosphere in the nursing care unit should be open and allowing the expression of various kinds of emotions. This makes it possible to deal with patient's private issues, even those of utmost delicacy. In order to be able to give answers to a patient's questions regarding sexuality, he/she has to understand and accept his/her own sexuality. It is necessary for a nurse to think over his/her own values, attitudes, and beliefs. By doing this the nurse is also able to support a patient to discover new ways of maintaining his/her sexual integrity in the life situation changed by illness. The nurse could respond to a part of the patient's sexual needs with his/ her own personality in terms of caring, understanding, and being genuinely present.

"Rehabilitating the Elderly and Frail on Renal Replacement Therapy"

M. Rivett
Leicester General Hospital, United Kingdom.

KUTNER 1992 STATES THAT ACTIVE INVOLVEMENT in the rehabilitation process may be a more difficult goal, when the challenges of dealing with a chronic disease are superimposed on the challenges inherent in the ageing process. We are all aware that Nephrology is a rapidly expanding speciality. As our patient group grows, along with an ageing population, so does the potential for a variety of conditions that may impact on an individual's independence and functional ability. A holistic approach to care emphasises the importance of identifying the physical, psychological and psychosocial needs of this patient group. An Occupational Therapist with knowledge of the complex needs of renal patients, carers and the idiosyncrasies of dialysis will compliment an existing service. The process of rehabilitation and habilitation of the frail and elderly must be appropriate, realistic and flexible to accommodate what for some is a disease that can be overwhelming in its complexity. The nature of renal replacement therapy and the unique requirements of our patient's may limit opportunities for them to attend specialist rehabilitation facilities. Effective rehabilitation of our older and frail patients lies with us all. Knowledge and skills in this area must be encouraged to ensure we promote an ongoing and effective process.

Percutaneous Intervention and Vascular Dialysis Access – State of the Art

M. Roček
Institute for Clinical and Experimental Medicine, Prague, Czech Republic.

THE NUMBER OF DIALYSIS-DEPENDENT PATIENTS is steadily increasing; consequently, the number of established permanent vascular dialysis access is also on the rise. Vascular access is not permanent and devoid of problems. Over the past 10–15 years, percutaneous methods for vascular access rescue have found widespread use. A prerequisite for the long-term patency of a vascular access is early detection of a failing shunt, i.e., the stage of stenosis. Fistulography performed to locate the defect is followed by percutaneous transluminal angioplasty using a balloon catheter. The procedure takes 30–60 minutes to complete, the clinical success rate varies between 85% and 98%. The primary patency rate is 10%–45% at 12 months; the primary assisted patency rate (repeat angioplasty) at 12 months is high, 57%–92%. A more serious complication of a vascular access is its occlusion secondary to thrombosis. The high costs of hospitalisation and treatment of thrombotised shunts require effective yet less invasive outpatient procedures. Recent years have seen an explosion in the development of mechanical devices on the principle of mechanical dissolution, fragmentation, and aspiration of the clot. Percutaneous thrombectomy/thrombolysis is a valuable alternative to surgical thrombectomy and revision. Post-procedural dialysis can be performed at once thus reducing the need for a central venous catheter. A percutaneous intervention does not exclude a subsequent, already aimed surgical procedure. The procedure, particularly in the treatment of native fistula occlusion, is more complicated and about twice as time consuming as treatment of stenosis. The clinical success rate is usually between 71% and 96%. The primary patency rate at 12 months is low, between 4% and 37% as again the secondary patency rate (another percutaneous procedure) ranging between 52% and 86%. The incidence of serious complications of percutaneous treatment is low. In most cases, the complications are vein rupture and peripheral arterial embolism. Adequate care of dialysis vascular accesses currently including percutaneous interventions is unthinkable without effective co-operation of haemodialysis unit nurses, the nephrologist, the vascular surgeon, with the interventional radiologist.

Practical initiatives in the prevention of cross infection

J. Vanpellicom
General Central Hospital Antwerp, Belgium.

IN BELGIUM INFECTION CONTROL NURSES must, obligatory by the government since January 1st 2000, register postoperative wound infections, sepsis, ventilation associated pneumonia. In our campus, we also score the incidence of pressure sores four times a year and have a continuous registration of new patients with M.R.S.A (methicillin resistant staphylococcus aureus) and tuberculosis. Procedures and standing orders of hospital hygiene can be consulted in order to see which patients must be isolated and what kind of precautions must be taken. The micro-organisms and diseases are sorted alphabetically and the way of cross-infection, kind of isolation procedure, duration of isolation are noted. These procedures and standing orders must be translated to the different departments and individual patients. For instance a patient with M.R.S.A. is strictly isolated in the general hospital, but not in the psychiatric department. As far as the haemodialysis unit is concerned we all know that patients with chronic renal disease are more sensitive to infections. For this reason correct hand hygiene is very important. Handwashing, hand disinfecting techniques, the use of gloves must be promoted. A microbiological control of the hands of personnel once a year, combined with an educational program, can motivate them in a positive way. Needle-stick injuries present a serious occupational hazard for health-care workers, especially those working in a haemodialysis unit. Information and prevention campaigns, safety syringes and needleless haemodialysis, alternative techniques may reduce the risk of needle-stick injuries and the risk of viral transmission (H.I.V., hepatitis B, hepatitis C). Can a nurse, on risk of contamination and transmission, refuse to treat a patient? The isolation techniques: where to locate the materials like gloves, gowns, masks, material for handwashing and hand disinfection? Is the use of hats, overshoes, glasses necessary? How many times are these materials changed, etc.? At last we give the data of 10 years of M.R.S.A.-registration in our hospital. M.R.S.A. has become a serious problem in many hospitals since the mid 1970s. Strenuous efforts need to be taken to control its spread. Especially in the haemodialysis unit we must be continuously alert. Screening the nose of patients and of personnel can be helpful. The carriers can be treated with mupirocin ointment. Bodywashing with chlorhexidine is preferred. The use of vancomycin and teicoplanin is a decision of the physician.

Pathogenesis of secondary hyperparathyroidism

E. Slatopolsky, M.D.
Washington University, St. Louis, MO, USA.

SECONDARY HYPERPARATHYROIDISM (S.H.) is a universal complication in patients with chronic renal failure. Hyperplasia of the parathyroid glands (PTG) is typically seen in these patients. In early renal failure, alteration in vitamin metabolism, decreased levels of calcitriol, and moderate decreases in ionized calcium may allow greater synthesis and secretion of PTH. As the disease progresses there is a decrease in the number of vitamin D receptors (VDR) and calcium receptors (CaR). The decreased number of VDR and CaR makes the PTG more resistant to calcitriol and calcium. Phosphorus independent of calcium and calcitriol induces hyperplasia of PTG and by a posttranscriptional mechanism increases PTH synthesis and secretion. Experimental work in uremic rats demonstrated that if the animals are fed a high phosphorus diet, they developed S.H. and parathyroid cell hyperplasia. If then, the diet is reduced in phosphorus, the levels of PTH return to normal. However, the parathyroid cell hyperplasia persists and no apoptosis is seen. Recently we demonstrated in our laboratory that uremic rats fed a low phosphorus diet increase a protein (p21) known to be a suppressor of the cell cycle. Thus, p21 prevents the development of parathyroid hyperplasia. This mechanism is specific for the parathyroid glands since a low phosphorus diet did not increase p21 in liver or intestine. On the other hand, uremic rats fed a high phosphorus diet increase TGF- α , a protein that binds to epidermal growth factor receptor (EGF-R) known to induce tumorigenesis and hyperplasia. Again, the effect of a high phosphorus diet was specific for the PTG. Although, so far there is no proof, it is possible that the PTG have a phosphorus sensor. Thus, the control of calcium, calcitriol and phosphorus is critical to prevent the development of secondary hyperparathyroidism and hyperplasia of the parathyroid glands.

Simultaneous pancreas – kidney transplantation

K. Viljoen, London, United Kingdom.

THERE ARE GOOD DATA which show that pre-emptive simultaneous pancreas – kidney transplantation [SPK] provides the best form of treatment for diabetic nephropathy with endstage renal failure. The purpose of this paper is to review the current status of SPK transplantation focussing on outcomes, complications, benefits to patients, and current immunosuppressive protocols. The nursing contribution towards the care of these patients will be explored. Details of the majority of SPK transplants performed in North America and Europe are collected by the international Pancreas Transplant Registry [IPTR] based in Minneapolis. These data show that the results of SPK transplantation have been steadily improving although kidney allograft survival is still superior to pancreatic allograft survival. Rejection and vascular thrombosis remain the most important causes of pancreatic allograft loss. However new immunosuppressive regimes utilising Mycophenolate Mofetil have substantially reduced allograft loss from rejection. Normoglycemia protects the kidney allograft from recurrent diabetic nephropathy and substantially improves peripheral and autonomic neuropathy. Diabetic retinopathy is usually stabilised but not improved. Controversy exists as to whether other diabetic small and large vessel disease either stabilises or deteriorates. However the major advantage of SPK – improved quality of life through dialysis and insulin independence is not in doubt.

Developing and applying nursing guidelines – National standards for Swedish neonatal care

L. Wallin,
Department of Women's and Children's Health, Uppsala University,
Sweden.

OBJECTIVE: TO DESCRIBE THE DEVELOPMENT and the clinical application of national guidelines for neonatal nursing.
Setting: All 39 neonatal care units in Sweden.
Background: Thirteen clinical guidelines for neonatal nursing care, in the format of standards of care covering topic areas such as family-centred care, pain management and breastfeeding nutrition, were presented in 1997. Recommendations on evidence-based nursing care and auditing measures were given. Most neonatal units in Sweden participated in developing the guidelines by producing, implementing and evaluating a standard of care on a specified subject. The locally derived standards were revised and compiled by a nationally compounded group of nurses after extended literature reviews had been conducted in each topic. One year after presentation the clinical application of the guidelines was evaluated by means of a questionnaire survey.
Study participants: Thirty-five of 39 nurse managers at all Swedish neonatal care units.
Main outcome measures: Implementation of guidelines, the extent to which the clinical guidelines were practised, perceived usefulness and the ways in which the guidelines were used.
Results: The guidelines were applied to varying extent in 30 of the 35 units. Almost all guidelines were applied, especially those covering general nursing care. A total of 72 Quality Improvement (QI) projects were reported, of which 51 concerned specific topics covered in the guidelines. Twenty units applied the guidelines as guidance for QI. Four units evaluated nursing practice. Four factors, namely DySSy as QI method, 4 years of practice as nurse manager, experience of nursing research and good staff resources were closely related to a more extensive application of the guidelines. Units with both a nurse manager and an assistant nurse manager were more likely to have used the guidelines as the basis for changing clinical practice.
Conclusions: The guidelines were successfully disseminated and diffused, but practitioner involvement in guideline development did not guarantee implementation. Downsizing, leadership and facilitation were crucial factors when getting evidence into practice. Rare occurrence of evaluations of clinical practice against guideline recommendations suggests a need for valid and easily applicable measures.

Infection Control – Developing a Hygiene Plan for a Renal Department"

B. Wille
Institut für Krankenhaushygiene und Infektionskontrolle, Gießen,
Germany.

WHEN DEVELOPING A HYGIENE PLAN for Renal Departments the aspects of infecting the staff and the possibilities of infections of patients are to be considered.
Besides the fundamental standard hygiene precautions, valid in the medical field, the particular risks of infection of the patients by bloodborn viruses and by dialysis equipment are to be considered.
Particular hygiene precautions are to be taken with patients being infected by hepatitis B, hepatitis C, HIV, AIDS or other bloodborn viruses.
Regulations are required for:
◆ Protective garments
◆ Handhygiene
◆ Surface cleaning and disinfection
◆ Instrument disinfection
◆ Sterilisation and handling of sterile supplies
◆ Equipment cleaning and disinfection
◆ Skin disinfection
◆ Further preventative measures for patients
◆ Laundry
◆ Waste removal
By establishing the hygiene plan the country's specific national regulations apply.
They are for Germany: the "Bundes-Seuchen-Gesetz", Robert-Koch-Instituts "Guideline for Hospital-hygiene and Infection Prevention", the "Unfall-Verhütungs-Vorschriften" by Berufsgenossenschaft für Gesundheit und Wohlfahrtspflege and the "German-Austrian-Recommendations for postexpositional prophylactic measurements of HIV-exposition".
Hygiene plans should be developed by aid of the staff to achieve an easier realisation in the field.
After disposing a hygiene plan the concerned staff of the dialysis unit have to be trained to get familiar with the contents.
The observance of the contents of the plan in a dialysis unit has to be surveyed by an infection control nurse.

Education

TB in the dialysis patient: a new-old problem

081

R. Fedorowsky, B. Nuriely, S. Naaman, A. Korzets,
Rabin Medical Center-Golda Campus, Israel.

MYCOBACTERIUM TUBERCULOSIS (TB) has re-emerged as an important infectious disease. Immunosuppressed patients, including patients with chronic renal failure, are at high risk for becoming infected with TB. Early diagnosis and correct therapy will only be achieved by enhancing awareness of staff via renewed educational programmes. Points of nephrologic importance in this education include: (a) Clinical manifestations: Leading symptoms of TB include a weight loss and weakness. Dialysis patients with these symptoms are often misdiagnosed as „underdialysed". Therefore, correct diagnosis is often delayed, as occurred in one of our patients. (b) TB peritonitis: Should be considered in any patient on peritoneal dialysis with peritonitis and repeated negative cultures; a predominant lymphocytic peritoneal infiltrate; and in any patient who is not responding to standard antibiotic therapy. (c) Patient compliance: Dialysis patients are under constant dietary constraints and financial difficulties. Full anti-TB therapy, with 3-4 drugs over a 6-month period, may hinder individual patient compliance. Partial anti-TB therapy will then lead to increased resistance of TB to therapy. Ways to overcome this problem are discussed. (d) Isoniazide (INH) prophylaxis: In any dialysis patient with a positive Mantoux, INH prophylaxis for 6 months should be considered. INH prophylaxis is a proven method of preventing active TB infection, but should only be commenced after overt TB is ruled out. (e) Test Mantoux: 40% of dialysis patients have extra-pulmonary TB, which is difficult to diagnose. The Mantoux test is critical in trying to obtain an early diagnosis. Anger is common in uremia, and only 60% of infected dialysis patients with TB will have a positive Mantoux. Methods of overcoming this problem are discussed, including a recommendation for an initial Mantoux in the pre-dialysis clinic. In summary, these points could be used by nursing and medical staff as guidelines for the diagnosis and treatment of TB in dialysed patients.

A patient education pathway into the millennium

075

C. Fraley
Southmead Hospital, Bristol, United Kingdom.

IT HAS BEEN RECOGNISED over recent years that a patient who has some knowledge of his renal disease, and had an opportunity to talk about his fears and concerns prior to commencing dialysis, copes better with life on dialysis than an unprepared patient. The patient education programme in our unit is initiated by the patient education co-ordinator and outpatient sister, who see patients after referral from nephrology clinics to prepare them for dialysis, supported by various resources. Following a review of the existing programme, it was recognised that a lot of education material was available within each department of the unit, but there was no consistency in packaging of this information, and no central record of what education individual patients had received.
This paper describes how a Patient Education Group was initiated, with a link nurse from each ward area and representatives from the whole multidisciplinary team. Building on the guidelines already provided by EDTNA/ERCA, specific standards were written and agreed by the Patient Education Group and Renal Management Team.
To facilitate the patient's pathway through the unit, an education folder was developed. This contains information relating to all departments and all aspects of care a patient will receive including: Introductory information to the unit, renal failure and dialysis; CAPD; Haemodialysis; Diet; Medicines; Transplantations; Diabetic Liaison Sister; Psychologist; Social Worker. All information is added by the relevant staff at the appropriate time required by the patient, as they „travel" through the unit. The work of the Education Group is audited and the progress of the patient education folder is evaluated 6 monthly.

Creative educational program as a way of enriching self-progress

069

Z. Gavish, G. Myster, E. Zur, S. Lap
Rambam Medical Center, Haifa, Israel.

RATIONALE: ENTERING INTO THE THIRD MILLENIUM, there have been expected changes in nursing database education resources and increasing competition for customers and their demands for up-to-date information. This has obligated the nursing profession, as a main resource of knowledge, to enrich and promote the staff creatively, in order to direct them towards individual and group education. Aims: 1. to improve and deepen clinical skills, as a tool for better quality treatment; 2. to raise staff awareness for self-education; 3. to identify learning needs of the nursing staff, 4. to estimate acquired knowledge internalisation, in a creative and non-threatening manner; 5. to supply tools and direction towards self-education; 6. to encourage team education for crossbreeding of knowledge and mutual enrichment; 7. to raise self-assurance in daily nursing work; 8. to promote staff consolidation. Process: 1. establishment of a working group for planning of educational programmes; 2. distribution of questionnaires to identify staff educational needs and logistic preferences; 3. analysis and processing of questionnaires; 4. writing annual educational programmes; 5. fulfillment of eight monthly staff workshops; 6. preparing creative knowledge tests; 7. answering knowledge tests either individually or as a group; 8. presenting feedback by the guidance team. Results: 1. unique staff educational requirements were identified; 2. awareness of self-education was raised; 3. tools and resources for self-education were provided; 4. an interesting educational process was achieved, individually and in groups, which contributed to mutual fertilization and reduced anxiety; 5. self-confidence of the team in daily clinical work was improved. Conclusions and Recommendations: 1. a built-in educational program expands knowledge and raises confidence in daily work; 2. involving the staff in the educational program and logistic decision making contributes to a sense of obligation, self-responsibility and collaboration; 3. examining the staff's needs exposes different and interesting subjects; 4. creative homework encourages clinical work and provides stimulation; 5. providing the guidance team with the authority to provide feedback, contributes to a sense of independence and reduces anxiety among the staff, 6. joint identification of the staff's educational needs, broadens the feeling of belonging and of consolidation.

Influencing health care in Southern Africa – an educational link

173

A. Jackson
South Tees Hospital Acute (NHS) Trust, Middlesbrough, United Kingdom.

THE OPPORTUNITY TO TRAVEL is irresistible to many of us. Faced with the chance of travel, coupled with objectives which aim to influence renal service development in a third world country led me on an educational link to Malawi in Southern Africa. The cultural divide between the U.K. and this mainly undeveloped country resulted in terrific challenges for me both professionally and clinically. In this report I reflect on the contrast of attitudes, politics, resources and management styles impacting on my original objectives and the objectives which arose following my arrival and assessment of the situation there. I discuss the objectives in detail and how they were presented to me, then explore health care delivery in this fascinating setting. The provision of a haemodialysis service within this impoverished country appeared improbable to me before I left the U.K. and in many respects remains a luxurious option. Some of the stressors faced by the team working 'against all odds' with unreliable utilities are revealed and presented with I hope, empathy, compassion and a little humour. Finally, I share the difficulties of readjustment on return to the U.K. as I consider the success of the trip and the problems faced and dealt with. The experience has influenced me greatly and had a huge impact on how I view challenges. The personal impact the trip has made on me as a member of a comparatively privileged society is interesting and how I maintain contact and influence the nursing team via telecommunications and post is significant and presents me with a continuous demand for much needed and welcomed written support and resources.

The role of the clinical facilitator bridging the practice-theory gap in Renal Courses: University Lecturer - Clinically Credible, Clinical Facilitator - Clinical Expert

179

G. Hyslop, Z. Lethbridge
RCHT Tremske Hospital, Truro, United Kingdom.

CURRENTLY THE AUTHORS' UNIVERSITY offers a clinical renal course to qualified practitioners working in the renal units within the region, it is a nationally recognised course with national validation from the Country's Nursing Body. In order to provide a programme that supports the student in their own areas of practice, each course has a clinical facilitator appointed. This individual is a current practitioner working within the specific speciality of renal nursing. Therefore a partnership is developed with local providers of healthcare and providers of healthcare education. This joint presentation aims to share the experiences, trials, tribulations and elation's of the University lecturer and the Clinical facilitator in their collaboration of providing the Renal Course. It will include the reflections of the experiences of the students, course teacher and the clinical facilitator in bridging the practice – theory gap for qualified practitioners undertaking clinical courses in renal nursing. The notion of clinical credibility in University Lecturers (Nurse Teachers) has been debated within the literature and according to Fawcett et al (1994) its meaning is still a difficult concept to deal with. Therefore this presentation suggests that the term clinically credible should be ascribed to the Lecturer whilst the term clinical expert is reserved for the role of the clinical facilitator in renal courses. Therefore the development of this partnership is the way forward to enhance practice and improve patient care, whilst maintaining both academic and clinical standards.

Live donor information: the donor's perspective

072

N. Jenkins
St. Peters Renal Unit, Middlesex Hospital, London, United Kingdom.

HOW CAN A POTENTIAL DONOR CONSIDER the suggestion if he/she does not know what it entails? The decision to donate a kidney to a loved one cannot and should not be made without receiving adequate information on the whole procedure. Co-ordinating an active live donor programme has identified the need for comprehensive, user friendly, written information as an addition to the verbal explanation that is provided. With the belief that those who had undergone the procedure are best placed to assist in designing the content, a simple questionnaire was sent to 13 donors who had undergone a donor nephrectomy in the last eighteen months. The questionnaire asked for ideas and comments regarding 8 chosen topics related to donation. Seven donors returned the questionnaire and one patient requested an interview to discuss her thoughts. The donors were unanimous in their approval of such an information booklet being produced and contributed many extremely useful ideas and tips for future donors. A separate detailed leaflet outlining all the investigations (why, where, how long for the results etc) has been produced as a result of the responses and will be circulated to donors for their opinions. The information booklet is currently being developed and will also be sent to the donors for evaluation before the final draft is completed. With the assistance of patients who have been donors, it is hoped that our written information will enable potential donors to make an informed decision on donation.

How to help the soul of dialysis nurses in new millennium?

077

*E. Kremenova, M. Nemcova, L. Nermutova, J. Pancirova, J. Kracikova
Charles Univ. Med. Scn. Prague, Czech Republic.*

THE SURVEY ORGANIZED by the professional organization of nurses showed that dialysis nurses lack the education of psychological-sociological skills. Based on the information acquired, we prepared a project aiming at offering a training programme to dialysis nurses caring for long-term patients. We designed three topics, which the survey had shown to be regarded as the most important by dialysis nurses.

The topics are: Effective communication and stress management; Psychology of incurable patients and positive life values; Assertive approach of nephrology nurses and solution of conflicts with patients and colleagues.

The training programme:

- consist of two-day meetings in groups of twenty nurses; it is managed by experienced lecturers-psychologist and aims at drilling specific skill the nurses might use in practice.
- includes practical skills complemented by theoretical knowledge from the field of the topic required; nurses receive comprehensive and practical lecture notes.
- is concluded by attestation of its effects by means of anonymous questionnaires and informal discussions.

Conclusion:

The evaluation of the acquired answers prove that thanks to the programme nurses adopt practical skills in view of the suggested topics. The survey also implies that even professionally experienced nurses are interested in further education in psycho-sociological skills. It would therefore be beneficial to continue the programme.

Developing a learning package, about caring for the visually impaired patients, for renal nurses

068

*Z. Lethbridge, S. Hallett
University of Plymouth, RCH Treliske (Hospital), Redruth, United Kingdom.*

COMPLICATIONS OF DIABETES are one of the main causes of renal impairment. In addition many renal patients who have diabetes often have another problem and that is of visual impairment. Within the renal unit of the authors' place of work it is estimated that approximately 30%–40% of the patients with diabetes have some form of visual impairment. Visual impairment can vary from blurred vision, tunnel vision and through to blindness. According to Dunning (1994) one third of diabetics have retinopathy; maculopathy is the most common cause of visual loss in diabetics with cataracts being more common in people with diabetes. The issue of dealing with patients with visual impairment receiving haemodialysis was highlighted when a patient, in the authors place of work, who was blind had an extremely distressing experience where difficulties arose with staff communicating with her. In particular when staff approached the patient it was fraught with difficulties. The incident highlighted a particular gap in the nurses' knowledge within the unit. Having identified the problem the authors, a renal unit manager and a senior lecturer with a local university, undertook a project to develop a learning package in order to update nurses' skills in the caring of renal patients with visual impairment.

This paper therefore describes the process of the development of the package and subsequent implementation. It also highlights the value of collaboration of individuals working in clinical practice with individuals working within academic institutions thus developing a partnership benefiting both patients and staff.

Career and speciality development following the basic renal course. An advanced education programme!

084

*A. Murphy
Renal Unit, Tallaght Hospital, Dublin, Ireland.*

RETAINING SPECIALIST NURSES in renal care is a global problem. In many countries postgraduate renal courses have been well established over the last thirty years, many like our own are university validated. The continuing education for these highly skilled, trained nurses has not been properly addressed. Yet the facility now exists in the nurses' career pathway for clinical nurse practitioners and advanced nurse practitioners in these specialities. In fact it is recommended in a major government document in our country. To address this need we set up an education programme, developed and consisting of seven sessions with six topics per session. We run them one afternoon a week, so most staff have the opportunity to attend. They are run in two weekly blocks and nurses register for Track 1 or 2. The senior renal staff participate in teaching the topics. There is also a renal meeting society and journal club input from the medical staff. I will show the structure of the advanced course, results of the evaluation, with the educational tools used.

The first evaluation has seen greater involvement and motivation among the renal staff. The nephrology ward staff retention level has improved, and the renal speciality has the best nursing retention in the hospital.

Confidence and presentation skills have been developed and self-esteem has been enhanced. The quality of patient care has benefited because of the increased expertise and knowledge gained.

In conclusion the renal nurses can attain an intellectual development for the career opportunities in the clinical field they have chosen. The vision is that this format will be developed in other specialities.

Pre-dialysis education: a group approach

071

*R. Soni, C. Weir, K. Nelson
UCL Hospitals NHS Trust, London, United Kingdom.*

THIS GROUP-BASED PRE-DIALYSIS EDUCATION PROGRAMME was designed to address the complex process, patients and their families go through in finding ways of living with ESRD. In order to give them maximum information we used an M-D approach in the structure and content of the programme of three consecutive two-hourly groups, meeting weekly. Patients getting to know the team, modelled the course of their future care, and we believed that meeting other patients of the same age group and involving family and friends would help them deal with the complex issues they are facing and assist them in making truly informed decisions about their treatment. Each session involved open discussion about dialysis, diet and social issues. Our approach was led by the group's concerns and throughout we aimed to integrate the emotional implications of disease and treatment. The programme was evaluated by questionnaires and the feedback mirrored our aims and objectives. These groups have now become an integral part of Pre-dialysis education and will in future include a discussion around transplantation issues.

Use of the internet by patients looking for health information – a shift in the balance of power?

074

R. Trevitt, R. Smitherman, L. FitzGerald, C. Whittaker, E. A. Ball
Barts and the London NHS Trust, London, United Kingdom.

TRADITIONALLY, THE PATIENT HAS RELIED on health care professionals for advice and knowledge, however, unprecedented access to information offered by the Internet may challenge this relationship. For many years now, nurses have endeavoured to make patients take more control over aspects of their health, but they remain a primary source of information for patients. A patient using the Internet exercises control over what information is accessed and how it is used, and therefore has the potential to use; this information to challenge or influence clinical care or lifestyle. To examine the impact this may have on our patients a questionnaire was sent to 640 transplant patients being followed up at our unit. 24 responded positively and were interviewed to see if the information they found on the Internet had been useful to negotiate a change in treatment or for support. It was found that Internet use was associated with male gender and access to the Internet at work, and with younger age (18 male, 6 female, average age 37.1, median 39.2 years). 7 had access at work, 5 at home, 6 at home and work and 6 via a friend or relative. 22 had found useful information although only 1 patient felt that he had negotiated a change in treatment as a result. One national patient support group has a web site and has made space available for every local patient group to create their own page but only 3 patients had visited this site. In the near future, especially when the Internet is available through television, patients will have the choice of becoming much better informed about treatment management and options, and of using this to challenge or support the therapeutic relationship. Health care professionals will be undermined unless they can stay ahead and ensure that they are up to date. If we do this, the situation is only improved. The patient will be empowered to have

a larger role in maintaining their health, and support groups will be better able to help patients. Another challenge is the unregulated nature of data being put onto the Internet - there is much that is unsubstantiated. We need to prepare to deal with this which may mean internationally agreed validation of specified sites on the Internet, having our own sites and collaborating with patient support groups.

Haemodialysis

Violent patient behaviour in the dialysis unit

010

D. Argaman, D. Brik, Z. Gavish
Rambam Medical Center, Haifa, Israel.

RATIONALE: DURING THE PAST YEAR there has been an increase in the unofficial reports, by the nursing team, of verbal and physical violence of patients towards them. According to publications of the NIOSH (1996), regarding violence in the work place, in the USA health professional workers are attacked at their place of work more often than other professional workers. The need to examine and to learn ways of coping with the problem of violence, in order to change the present situation, has been aroused by: recognizing the fact that ESRD is a chronic disease, which is accompanied by a lack of certainty and strict limitations in the daily routine of the patient's life; uncertainty on the part of the nursing team how to treat violent eruptions; the lack of written policies regarding violence in the hospital.

Aims: To increase the awareness of the management staff in the hospital towards the violence phenomenon; improving skills of coping with violent behaviour; decreasing cases of violent behaviour in the department; to write work policies in cases of violent behaviour.

Process: Surveying the literature for information regarding violent behaviour by the patient and his/her family; building a questionnaire to examine the subject of violence by the patient and/or his/her family towards the staff; distribution of questionnaires to the nursing team of the dialysis unit and processing the statistics; reaching conclusions and recommendations for the future.

Results: No clear-cut guidelines were found in the literature regarding cases of violent behaviour towards nurses; interference can prevent violent outbreaks by patients and/or their families; cases of violent behaviour must not be ignored, it is obligatory to report them and act; in the questionnaires filled out by the nursing staff the following was concluded: (a) all of the nurses had been subjected to verbal violence from dialysis patients, (b) 44% of the nurses experienced physical violence from the patients, (c) 96% of the nurses think that a policy must be written on the subject of violence.

Conclusions and Recommendations: An enrichment program must be compiled and guidance must be given to the staff in order to diminish and prevent cases of violent behaviour; awareness of the staff must be heightened regarding reporting cases of violent behaviour; a uniform policy must be written on how to act during cases of violence; a support system must be built in order to strengthen the nursing staff's professional abilities to handle cases of violent behaviour and for self-protection when needed.

Quantity versus quality. The ethics of the provision of renal replacement therapy

035

C. Ashwanden
Dellwood Hospital, Reading, United Kingdom.

50 YEARS AGO if one had renal failure the prognosis was certain death within a short timeframe. Now if one receives RRT the prognosis has dramatically changed. But in this time of economic constraints and ever decreasing human resources are we now to be faced with the necessity to make choices about who receives replacement therapy? This paper looks at the ethics of providing treatment for large numbers but at the risk of 2nd class treatment, or selection of a few to receive the best treatment possible. The author asks where is the point of choice for the provision of therapy; before treatment has begun or having started who has the right to stop treatment and should there be criteria for discontinuing this treatment? The paper examines the ethical issues facing all health care team especially those caring for the chronically ill. The financial benefits of one kind of therapy over the other are examined and again the author puts the question, is it economics which governs the treatment prescribed or a real choice made with knowledge? The paper looks at some of the choices that have to be made if the renal services are to survive. There has to be a rationing given that resources are limited but who is prepared to make the choices. The author has found that "hands on" health care teams are still aiming to treat the ever increasing workload but at what cost? How long can we continue to accept patients for treatment when we may be putting at risk other patients and the very people who are providing the care?

“Both sides of the coin” – Starting a patient on home haemodialysis

026

J. Barrie, D. Dahan, E. Milo
Western Galilee Hospital, Nahariya, Israel.

IN THE PREDIALYSIS CLINIC, it was clear that the regiment of hospital haemodialysis treatment and peritoneal home dialysis was not for Y. He is a nature reserve guide and his life style and work schedule include many trips, swimming and hikes, sometimes for a few days. After discussing options with him and his wife and assessing them for suitability, it was decided that home dialysis was the best for him.

This is practically a first in our unit and we had to start from scratch. The new Patients Rights Act, international standards of care, legal issues and areas of responsibility and accountability had to be taken into consideration and covered. We renewed our work procedures and rules, so that home dialysis could be performed effectively, safely and legally.

Patient education began 4 months before the start of dialysis. A special teaching programme was drawn up based on the evaluation of his level of knowledge, covering every issue required to become independent at home. Setting up and implementing the program involved a multidisciplinary team of lawyers, doctors, engineers, technicians, psychiatrists, social workers, the hospital's ethics committee, head nurses, and we, the nurses who taught and accompanied Y and his wife. It's not always easy to get everyone to work together and at times it was like playing “Snakes and Ladders” – 10 steps forward and as many back!

There were also many setbacks relating to the patient's health, his fistula, legal and technical issues, which lengthened the onset of the home haemodialysis care.

It was important for us in this project to involve the patient from the beginning and get his side of the story, (will be shown on video film) dealing with the initial fears, acceptance and excitement, learning difficulties, internalization and coping with all the problems of finally going home.

In conclusion, new work procedures have been written and carried out, enabling us to achieve a higher quality of nursing care and patient satisfaction, in what is for us, a new, challenging and exciting area.

Monitoring of native fustulae in our center with dilution method (TRANSONIC™)

163

S. Contrino
Cal Cesano Maderno, Milan, Italy.

THE TRANSONIC DILUTION METHOD is useful to determine the good performance of grafts in fact it is documented a flow less than 600 ml/min increases thrombosis incidence. There are few data about native fistulae. Utilizing two sensors, the Transonic™ dilution method allows us to measure both access flow and the cardiac output. Aim of the study: Monitoring native fistulae with an elevated risk of thrombosis in all our patients (age 62±14 years) of our center (n=58). We classified native fistulae into: Anatomical Snuffbox (AS=15), classical Cimino Brescia at the wrist (CB=21), to the origin of the radial artery, fold of the elbow, Toledo Pereira (TP=19) and proximal (P=3) monitoring for a period of 12 months. For each patients we collected at least three measurements in a haemodialysis session during the first two hours, we considered the mean value for statistic analysis. In a period of one year (2/1998 until 2/1999). We performed at least three determinations. We analyzed the access flow determinations according to the native fistulae type (AS, CB, TP, P), the patient sex (M=40, F=18), the arterial pressure, the anastomosis type (side-side 22, side-terminal 36), and the fistula age (52±63 months range 1-276months); to simplify the calculations we have divided the FAV in two groups <2 years (n=29) and >2 (n=29). In 8 patients (2 AS, 1 CB and 5 TP) we could not determine the real access since the needles position was not on the same branch. No thrombosis during the period of the study occurred. Access flow was significantly different considering. Native fistulae type (AS=556.6 ml/min, CB=960.4 ml/min, TP=1009.4 ml/min and P=1413.3, with a p=0.0067). Anastomosis type (L-T=802+377 ml/min, L-L=1081+ 595 ml/min, p=0.033). Native fistulae age (<2a=796.7 ml/min, >2 to=968.4 ml/min, p=ns), the sex and the arterial pressure do not seem to influence access flow. The access flow monitoring native fistulae with the Transonic method seems to be very specific to determine the thrombosis risk. An access flow less than 600 ml/min is often found in the native fistulae, above all in AS type, although without thrombosis. The native fistulae seems to increase access flow over a period of time, so that thrombosis events decrease proportionally, this phenomenon does not occur in grafts. On the other hand, younger native fistulae (<2 years) must be monitored more carefully in order to avoid thrombosis due to the low flow.

Anticoagulation and function of A/V Fistula (A.V.F) in hemodialysis: midterm comparison between standard heparin (UFH) and fractionated heparin (LMWH)

008

L. Bianchi, R. Raparelli, V. Padroni
Ospedale S. Giuseppe, Nefrologia, Italy.

COMPLICATIONS OF VASCULAR ACCESS are one of major cause of morbidity and also one of the main cost in R.R.T. Remarkably, conservative estimates suggest that these costs represent up to 17% of total spending in R.R.T., and up to 25% of all hospital stays for E.S.R.D. patients and up to 50% of all hospital costs. The goal of our study was comparing the effect of using LMWH v/s UFH on the function of AVF. METHODS: In a group of clinically stable patients we randomized two cohorts of ten subjects each, A) UFH subgroup: the male female ratio was 4:6, age 59±12 years, dialytic age 61+30 months, glomerulonephritis (G.N.) was the cause of ESRD in all cases, 2 subjects were already prescribed aspirin and 1 ticlopidine. This subgroup was anticoagulated with UFH: 1000 u. as I.V. bolus at the starting of HD session plus 1000 u/h in continuous IV drip. B) LMWH subgroup: male to female 4:6, age 38±36 years, dialytic age 58+41.8 months, G.N. 8 cases A.D.P.K.D. 2 cases, 1 subject was already prescribed ticlopidine, this subgroup was anticoagulated with 2500-5000 i.u. of LMWH dalteparine (FRAGMIN® PHARMACIA given as IV. bolus at the start of session. In the two subgroups there were no significant differences in the gender age (years), dialytic age (months), and pathogenesis of ESRD (p=n.s.). At time 0,12, months KT/V, BUN, Hct, resistance index RL (systolic peak – diastolic peak/systolic peak by colour Doppler HITACHI SONOLAYER 2000 S taken on the main branch of vascular tree that throughout the study was not used for the HD.

RESULTS: Data are expressed as mean ± 1 SD and the student test for paired data was used. KTN, Hct %, BUN (mg%), at time 0,12 months were respectively: A) UFH subgroup: 1.41±0.15 v/s 1.30±0.16; 32±3 v/s 32±4, 77±9 v/s 69±13; B) subgroup: 1.42±0.13 v/s 1.31±0.14, 33±3 v/s 34±3, 79±11 v/s 71±14; for each paired data p=n.s. R.I. at time 0,12 was in A) UFH subgroup: 0.529±0.04 v/s 0.45±0.05 and in B) LMWH subgroup: 0.51±0.04 v/s 0.53±0.05; p=n.s. In A) two major vascular accidents happened: 1 stenosis which deserved surgical repair and 1 AVF thrombosis; in B) no major event occurred.

CONCLUSIONS: The use of LMWH, in HD for anticoagulation, is adequate and efficacious as standard heparin (UFH); moreover, in midterm, it has not any negative effects on AVF function.

Changing machines – preparing patients for the dialysis technology of the 21st century

015

H. Fawkes
Richard Bright Renal Unit, Bristol, United Kingdom.

INTO THE NEW MILLENNIUM advances in dialysis technology such as daily Home Haemodialysis, Haematocrit monitoring and on line monitoring of home machines (including APD) via modems will become increasingly common place. It is therefore imperative to acknowledge the psychological and physical demands this technology presents to patients and their carers if such interventions are to be successful and acceptable to our patients. This paper will present our experience and the lessons we have learnt following a programme to transfer established home haemodialysis patients from unsophisticated non volumetric equipment to sophisticated volumetric dialysis machines. 2 case studies of patients who initially experienced a deterioration in health on transferring to their new machines and consequently blamed the new technology will be included. Changing the equipment that patients have relied on and used expertly for 5, 10 or even 15 years could be a potentially traumatic and stressful prospect not only for the patient but for their carer. Thus, in order to reduce the anxiety and uncertainty that CHANGE can generate we recognise the importance of INFORMATION backed up with reassurances that the new machine would ultimately improve their treatment and their dialysis experience. The change over was facilitated by one to one teaching supported by written information. On reflection we have learnt the importance of LISTENING to what patients tell us about how they feel on their new equipment. For the future we identify a need to provide more supporting home visits to patients to facilitate any proposed changes in equipment.

What does elderly mean in the haemodialysis programme?

164

J. Soler Amigó, J. Roma Millan, J. Mòdol Gort, D. Gassó Bonvehí,
L. Tulleuda Lari
Department of Nephrology, Centre Hospitalari, Unitat coronària de
Manresa, Manresa, Spain.

THE AIM OF THIS PAPER is to analyse the morbidity and the mortality of the patients in HD program during the last 19 years in the same centre. For this analysis we included all patients who started on the HD programme between 1980 and 1999. The criteria for morbidity was analysed by the number of events that dictate hospital admittance and the number of days of hospital admittance. The main variables in the study are the months in HD, and the age and the end of HD, or the actual age. 259 patients had been included in the analysis, 82 (31.7%) still in HD program at the actual moment 124, (47.9%) had died during the this period, and 53 (20.5%) had received a kidney transplant. The mean of age is 58.7 ± 19.08 years.

RESULTS: There is a very good correlation between the year of starting HD program and the age at this point ($r=0.213$, $p=.001$). Also there is a good correlation between the age at the beginning and both parameters of morbidity. Using Kaplan-Meier's approach no differences between the groups of patients, the percentile 50 is at 8.33 for all groups. The Cox model shows that the age at the beginning is a positive factor for predicting the time HD program (B coeff.=0.045 $p=.0001$, $RR=1.04$ per year). The survival time in HD program introducing the age as a time dependent variable shows a very interesting result, the percentile 75 is 71 years, the percentile 50 is 80.

DISCUSSION: It is obvious that during the last two decades we included more elderly people onto the HD programme, who live on the HD programme the same time as the younger people. Also we can show that the elderly people have more problems defined as morbidity. The most spectacular result is that the percentile 50 is around the 80 years (50% of people have the probability of living up to 80 years). Is the age of elderly people really 65 years?

Anti-platelet therapy in haemodialysis

167

L. Andrea, E. Garcia, A. Pulido, A. Farré
Fundación Iñigo Aluarez de Toledo, Centro Santa Engracia, Madrid, Spain.

PROPHYLAXIS OF VASCULAR ACCESS THROMBOSIS is not well studied. In addition, at the actual moment, no agreement exists as to which is the optimal policy in terms of administrating antiplatelet agents to haemodialysis patients.

We retrospectively examined the rate of thrombosis and angioplasty in our dialysis unit regarding the use of antiplatelet therapy and the type of vascular access.

75 patients were dialyzed in an external dialysis facility dependent on the hospital, from January 1st 1998 to December 31, 1998. In relation to type of vascular access, 53 pts had an autologous arteriovenous (AV) fistulae and 22 a polytetrafluorethylene (PTFE) graft. Fifty-six pts took antiplatelet agents (30 aspirin, 23 ticlopidine and 3 disgren). Thirty-five out of 56 pts on antiplatelet therapy had a native AV vascular access. The reasons for antiplatelet therapy in this group were: in 13 pts cardiopathy with anythmia, in 3 thrombosis vascular cerebral accidents and in the rest ($n=19$) prevention of vascular access thrombosis. All but one pt with a PTFE graft were on antiplatelet therapy. Mean haematocrit values, maximum and minimum Hct levels, and EPO doses were recorded.

36,3% (8 pts) had a PTFE graft thrombosis and 17% (2 pts) a native AV fistulae occlusion ($p=0.001$). The 8 pts with PTFE graft were receiving antiplatelet therapy and only one pt with autologous fistulae did not take antiplatelet drugs.

Angioplasty was performed in 10 pts with autologous fistulae and, in 2 with PTFE graft. All but three pts were on antiplatelet therapy. No differences were found at the thrombosis and stenosis rate regarding the type of antiplatelet drugs (11/30 with aspirin vs 6/17 with ticlopidine). Also, no differences were found about Hct values, maximum Hct and EPO doses between pts with vascular access thrombosis or stenosis vs the rest of pts. Multiple analysis showed that the type of vascular access (fistulae vs grafts) is the main factor that increases the risk of thrombosis ($p=0.06$). The use of antiplatelet therapy does not appear to decrease the risk of developing vascular access thrombosis.

Breaking down the barriers of a dialysis unit

027

N. Hettinga, M. de Leeuw, B. White
A.M.C. Amsterdam, The Netherlands.

WHAT IS STEMCELL/PLASMA LEUCOPHERESIS and why is it carried out on our unit ????

Pheresis techniques are very successful in collecting cells in the peripheral blood as part of a chemo-therapy or hyperleucocytose, or exchange of plasma in case of some system diseases or TTP. In order to perform pheresis in the acute situations and to develop the technique further, the decision was made to integrate the pheresis service with the dialysis services. At first, we had many difficulties, there was a lack of qualified personnel, only one person was able to perform the pheresis-technique, and there were frequent problems of miscommunication between members of staff. Technically there was the problem of a low blood flow mainly because the access used was 2 venflon needles. There were no set guidelines over the anti-coagulant therapy. The treatment was carried out at another location with no backup service provided. Therefore we decided to set up a multidisciplinary team and to set ourselves clear goals to be achieved within two years.

- The goals were:
 - to move the facilities to the dialysis unit
 - to consolidate manpower
 - to offer optimal care and reduce the physical and psychological trauma to the patient
- The treatments to have clear standards and guidelines

ACTIONS

- Develop and describe protocols and set standards coordinated by a multidisciplinary team
- Provide inservice training for dialyses qualified personnel for pheresis techniques
- Provide 24 hours on-call service
- Location moved to the dialyses unit
- Improve the technique of treatment
- Improve access technique
- Anti-coagulant protocol
- To offer more detailed information to the patient and family

CONCLUSION

After two years we have reached all the goals we set out to achieve. Inservice training has now started and at present five dialysis staff are fully trained. A protocol book with standards has been made, which has helped with the coordination and communication between members of the multidisciplinary team. A 24 hour on call service is now available for all emergencies. The number of treatments has now been reduced from 3 to 1, sometimes 2 depending on the number of cells harvested, and the duration from 6 to 3 hours for one treatment, due to the access and anti-coagulant protocol. A data registration bank has now been set up to evaluate the therapy and we have plans to begin a research project to evaluate the patients opinion on the care that they have received. The actions have proved to be very successful and an enormous improvement has been made.

The grown-up patient – the “new” customer in dialysis

180

I. Hippold
Kuratorium für Dialyse (KfH), Berlin, Germany.

INTRODUCTION: NEPHROLOGICAL CARE, especially outpatient, is being restructured due to economic factors and scientific advances in care. Developments in integrating the awareness of the patient-as-client strategy evolve into neo-orientation of the process of new quality mechanisms. Amongst other things this is the outcome of the new found emancipation of the patient-as-client, the service receiver and contract giver, and the beginning of the economisation of care services.

PROBLEM: Care handling features were not originally looked at from an economic point of view. The staff are more often confronted or forced to think in emotional terms for example, patient relationship management strategies in outpatient dialysis institutions. Care handling is now taking on the characteristics of a commercial activity due to the increased competitiveness of dialysis institutions and emancipated client's demands.

APPROACH: The business-model serves as an example which can be imitated by the care services.

OBJECTIVE: The adoption and implementation of changes in the responsibility of care provision and management, especially in outpatient dialysis should be objective focused and supported. The clients have new way of thinking and therefore demands: so the profession has to ensure that it is capable of meeting and establishing these new conditions economically.

DISCUSSION: The transfer of business attitudes into care, such as client management, promotes the optimisation of care quality. One should be aware of the range in which business should be raised as a measure in care management.

CONCLUSION: the necessity of economical forces which are closely linked to patient/client emancipation needs a change of thinking in the provision of care which can be objectively focused and supported. To understand this “new” customer, to accompany him and to integrate him into a new service strategy can be managed by the understanding and willingness to implement the customer oriented model of business economics.

Patients personal dialysis file; how effective has it been?

034

B. James
Renal Unit James Paget Hospital, Yarmouth, United Kingdom.

IN JUNE 1997 THE NURSES in our haemodialysis unit implemented a patient personal dialysis file. Two years later we performed an Audit of its effectiveness, especially in respect to who was using the file, how the patients were using it, and were the patients getting information that they wanted from it. Four patients were initially given a file as a pilot study. The file included information on haemodialysis and related issues, along with personal records to fill in regarding their dialysis. They trialed the file for four months and commented on possible improvements. It was then given to the forty patients we were dialysing at the time. The details were completed with help from the patient's named nurse. The patients were advised that it was their own file to do with as they wished and use was not compulsory. Initially motivation to use the file was high amongst both staff and patients.

The review was carried out by myself and a senior staff nurse in the form of a pre-set questionnaire and all of our current thirty seven patients were questioned. Forty one per cent were using the file on a regular basis and were finding it very useful. They were documenting monthly blood results, blood pressure records, and interdialytic weight gains, along with maintaining records of current medication. Thirty five per cent did not have a file given to them on admission, but were very interested in having one. Eleven per cent had a file, but did not use it as they thought, it was not useful or felt, they had not had enough support from nursing staff. Thirteen per cent had no interest in using the file at all. Our conclusions are, that with more support and encouragement from the nursing staff and other members of the multidisciplinary team, more patients would use the personal file. Empowering the patients to make informed choices relating to their individual needs.

Efficacy of domiciliary visits from a satellite unit – the haemodialysis patients' perspective

032

S. Hyde, M. Moores
Victoria Hospital, Lichfield, United Kingdom.

AS A RESULT OF A NUTRITIONAL STUDY in 1996, we have carried out domiciliary visits to patients on our Unit and the Staff have found them most beneficial. However, to ensure optimum use of Unit resources, we decided to evaluate the service from the patients' perspective and then structure it accordingly.

21 patients remaining on the Unit had already received visits and so we asked them to complete an anonymous questionnaire. 16 returns showed 100% satisfaction with the present system but 57% of these requested follow-up meetings.

After multi-disciplinary discussion, we introduced the following Unit protocol for domiciliary visits.

These were planned with distinct objectives, methods and the amount of Staff time involved.

- A statement of purpose in the form of an explanatory page to be added to the Unit Information Folder. This would explain to the patient and family the reason for the visit and an information sheet would also give guidelines for suggested topics for aid discussion
- Set Unit Standard of one optional visit per patient on admission
- Visit to be carried out by Dietitian and Named Nurse
- Visit to be documented in the patients notes and any changes in treatment to be implemented
- A follow-up meeting with patient and family to be arranged on the Unit after 6 months to appraise progress.

We shall audit the results of introducing these protocols to ensure an effective use of resources with particular benefit to patient and family alike. The aims of the multi-disciplinary team have been clarified and all concerned should benefit from a well structured domiciliary visit programme by combining hi-tech haemodialysis with a low-touch holistic approach.

“Yardim” means helping – experience report about an emergency operation in Turkey after the earthquake of August 17, 1999

007

P. Jünger
Charité Campus Virchow Klinikum, Berlin, Germany.

THE EARTHQUAKE IN TURKEY resulted in a large number of patients with post traumatic acute renal failure, which required haemodialysis. The “médecins sans frontières” (MSF) in cooperation with the International Nephrology Society organized a search for medical personal throughout Europe. Five specialized dialysis nurses from our unit with experience in the treatment of acute renal failure were immediately prepared to fly into the disaster zone and formed the third European team. In Brussels and Istanbul meetings were held between our personnel and members of the MSF in order to provide the team with the necessary background information about general conduct in a crisis area and the daily changing situation within. Our team arrived in Bursa, 80 km southwest of the epicenter, on 27th August 1999. Overall about 400 cases of acute renal failure needing haemodialysis therapy occurred. On our arrival 60 of these patients were treated in Bursa, in addition to the usually dialyzed patients with chronic renal failure. Even ventilated patients, frequently with amputations of the limbs, were treated on the dialysis unit. All patients and medical personal suffered under nightmares and the uncertainty about the fate of their next of kin. Generally the Turkish teams worked up to 18 hours per day. After initial mutual contact difficulties, an efficient working atmosphere developed rapidly. With a brief introduction into the foreign programming of the dialysis machines, we were able to dialyse the patients independently. Our presence enabled the Turkish nurses to take longer breaks and to leave the hospital site at times. We were replaced by colleagues from France after seven days. It came to a very emotional and memorable farewell.

To summarize, our efforts showed that rapid help of foreign dialysis nurses experienced in acute dialysis is possible and beneficial. Despite the extreme psychological stress and the knowledge of continuous potential danger, such as these following earthquakes, we would be happily prepared to share our experiences and to repeat this mission in a case of future emergency.

A new technique of citrate anticoagulation in haemodialysis patients with bleeding disorders

197

L. Kesters, W. Vandembemt, B. Maes, H. Vlaminck, Y. Vanreterghem
Department of Nephrology University Hospital Leuven, Belgium.

INTRODUCTION AND AIMS: We compared two methods of citrate dialysis in renal failure patients at risk of bleeding regarding anticoagulation, dialysis efficiency, safety, workload and cost. In the first method (I) trisodium citrate (530 mmol/l) is infused into the arterial line at a constant flow rate of 70 ml/h, combined with a calcium 1.75 mmol/l and normal magnesium dialysate; no extra calcium chloride is administered; bloodflow rate is set at minimum 250 ml/min. The second technique (II) consists of infusion of trisodium citrate (530 mmol/l) into the arterial line at a flow rate of 70 ml/h, combined with a calcium free and magnesium holding dialysate; calcium chloride (1.1 meq/ml) is supplemented after the dialyser at a flow rate of 20 ml/h; the flow rate of calcium chloride is adapted according to the ACT and CA^{2+} values of the patient.

METHODS: To assess the safety of method I, we dialyzed 45 patients, in a total of 203 dialysis sessions with this technique and measured, as a function of time, whole blood activated clotting time (ACT) of the patient, ACT before and after the dialyser and CA^{2+} of the patient. These results were compared with a retrospective sample of renal failure patients with bleeding disorders, dialyzed with method II (n = 15 patients; 70 dialysis sessions).

RESULTS: No differences were found in ACT of the patient (mean 140 (I) vs. 128 (II)), ACT before the dialyser (mean: 241 (I) vs. 212 (II)), CA^{2+} (mean: 1.16 (I) vs. 0.94 (II)) and dialysis efficiency. Using method I ACT and Ca^{2+} values were very stable during dialysis, allowing us to reduce the blood sampling rate with 50% (from 6 to 3).

CONCLUSION: Trisodium citrate dialysis with normalisation of the CA^{2+} of the patient through the dialysate (method I) is a safe, efficient, less time consuming and therefore more cost-effective way to dialyse renal failure patients who are at risk of bleeding. This method was implemented in our dialysis unit in May 1999 without technique associated adverse events.

Effects of a vitamin E-coated new dialytic membrane on lipoxidation

031

S. Lavanna, A. Coloretti, E. Sanfratello, M. Amoroso, M. Cocco
Section of Nephrology, Dpt. Int. Med., S. Martino University Hospital, Genova, Italy.

LIPoxidation marker has been evaluated in seven patients undergoing chronic haemodialysis (HD) during three months of HD with a standard biocompatible membrane (Gambrane, Gambro) and subsequently during four months of HD with a vitamin E-coated new cellulose membrane (Excebrane, Terumo). Patients (5 M and 2 F; 62±4 yrs old) have been on HD treatment from 4.2±1.2 yrs. None had diabetes mellitus or evidence of other significant illness. HD efficiency (extraction of urea, phosphorus, uric acid, potassium), routine laboratory tests and a specific lipoxidation marker (malondialdehyde, MDA, measured by HPLC) have been evaluated at the beginning of each month of the study. For each patient duration of HD, Qb and Qd were maintained similar during both periods. Data are reported as mean±SEM.

The new membrane has been well tolerated and undesired adverse effects have not been observed. Excebrane had a HD efficiency similar to the conventional membrane (extraction of urea 68±2%, phosphorus 53±4%, uric acid 72±2%, potassium 33±3%). Biochemical parameters were similar during both periods, with the exception of a reduction in total cholesterol during Excebrane period (186±10 mg/dl vs 216±15, p<0.02). However, analysis of clinical records demonstrated a better pharmacological control of dyslipidemia. No differences were observed in EPO or iron somministration, and in blood pressure values, both systolic and diastolic. MDA levels were stable during standard HD period (mean values 2.7±0.3 nmol/ml) even if elevated with respect to normal ranges (0.4–1.2 nmol/ml). During Excebrane period a significant decrease of MDA levels was already observed at the first month; such a reduction persisted during the study (1st month: 1.6±0.3 nmol/ml, 2nd month: 1.7±0.2, 3rd month: 1.5±0.1, 4th month: 1.7±0.1, p<0.02 vs standard HD values). In conclusion, vitamin E-coated membrane is well tolerated and provides good HD efficiency. It also seems useful in reducing chronic lipoxidative stress and this effect may be important in reducing cardiovascular complications of HD patients.

Cardiac Output (CO) measurements during haemodialysis

014

N. Krivitski, V. Kislukhina, J. Snyder, T. Depner
1 Transonic Systems Inc., Ithaca, NY and
2 University of California, Davis, USA.

CARDIOVASCULAR DISEASE is the major cause of mortality in haemodialysis patients. The methodology of the recent non-invasive indicator dilution method was used for measuring CO during haemodialysis. This method uses arterial and venous sensors (HDO1, Transonic Systems, Inc., Ithaca, NY) to measure the change in ultrasound velocity induced by a 30-ml bolus of normal saline injected into the venous line. CO, access flow (Qa) and mean arterial pressure (MAP) were measured within the first 30 minutes and during the last 30 min. of 93 haemodialysis sessions.

Results:

Haemodialysis	CO (l/min)	Qa (ml/min)	MAP mmHg
Beginning	7150±2340	1110±760	104±14
End	5840±2140	1060±750	99±14
Change	-18% (p<0.001)	-5.0% (p<0.001)	-5.3% (p<0.001)

SUMMARY: Cardiac output is considered the main parameter of human haemodynamics. The data suggests that its changes during haemodialysis were related to ambulatory status, age, gender and survival of patients. In response to removal of the toxins and water, the cardiac output appeared to be the most dramatically changed haemodynamic parameter during the haemodialysis session. The ability to measure cardiac output will help to better understand the physiological processes in haemodialysis and may improve patient survival by aiding in controlled drug therapy.

Home Haemodialysis for the year 2000; a new approach to an old treatment

020

Ph. Lunts, G. Harwood, J. Fuller
Baxter Dialysis Unit, Ipswich Hospital, United Kingdom.

HOME HAEMODIALYSIS (HHD) has aroused increasing interest recently, but is still viewed as suitable only for small numbers of patients. We redesigned our approach to make it suitable for many more patients.

Simplification	Structure	Support
Simple and rapid training package – less skills to learn	Dedicated HFID nurse and training room	Intensive home visit programme
Simple installation	Structured training package	All nursing and technical support focussed through HDD nurse
Simplified contact – one phone only	Daily training	24 hour Help line

Wider patient suitability

- ◆ 5 patients home in the first 9 months of operation.
- ◆ 3 patients over 65.
- ◆ All but one patient with experience of PD (1 current, 1 prospective patient are failed APD patients)

RESULTS

- ◆ Average training time 19 days (shortest time 13 days)
- ◆ inpatient stay approximately 4 days per year.
- ◆ Average KTN is 1.34, average Hb 11.4.
- ◆ All 5 patients report physical, mental and social improvements to their lives since going home.

Our programme demonstrates that patients not usually considered suitable can train and carry out HHD.

An illustration of the effective management of haemodialysis adequacy

025

*M. Maclean
Renal Unit, Hope Hospital, Salford Royal Hospitals NHS Trust, United Kingdom.*

THE DELIVERY OF NURSING CARE utilising the named nurse structure has influenced the need for the introduction of a nurse led quality framework for assessing the effective management of haemodialysis adequacy.

As with many other Renal Units we have opted for the use of urea reduction ratio (URR) as a practical tool to assess the adequacy of our dialysis. The use of URR is advocated by guidelines provided by professional bodies such as Renal Association and Dialysis Outcomes Quality Initiative (DOQI).

The study consisted of an audit which was carried out over a twelve month period on of a patient population of seventy-two. Data was collected on a monthly basis. The findings of the study proved that dialysis adequacy can be improved by regular review of URR alongside other set haemodialysis targets. Over the twelve month period 81% of patients achieved a URR of 65% as recommended by Renal Association Guidelines.

Two very diverse case studies were used to illustrate both the limitations and the effectiveness of the use of URR. The first illustrating how an excellent URR is not necessarily an accurate clinical indicator of dialysis adequacy and the second illustrating how measuring URR can positively influence the delivery of dialysis prescription.

There is a process that is necessary for the effective management of adequacy. It is essential that nephrology nurses are equipped with the skills and ability to carry out this process.

Recommendations for practice have been made and have been implemented.

Study about cramp and its predisposing factors

038

*A. Martinez, D. Spencer, G. Chivers, P. Parris, D. Maloney
Addenbrooke's NHS Trust, Cambridge, United Kingdom.*

THE PURPOSE OF THIS STUDY was to assess the incidence of cramp in our haemodialysis unit and factors affecting it, with particular reference to those moments before cramp appears. Do patients have any warning? Are there factors, which make them more prone to cramp?

The method involved the use of a questionnaire and data collected from the patients' notes. Blood pressure, ultrafiltration rate, sodium and UF profiles, the amount of fluid removed as a percentage of body weight, medication and the presence of peripheral pulses were recorded for each patient. From the information obtained we were able to split the study population into two groups: Those who had two or more episodes of cramp in a two-month period, from August 1999 to September 1999, and those who did not. A comparison was then drawn between the two groups. Chi-square for quality variables and t-student for numeric variables were used to evaluate the data.

Initial results on a study population of 29 showed that the incidence of cramp in our unit to be as high as 58.6% and more interestingly 64.7% of these patients have warning signs before the cramp appears. There were also similarities in the way the cramp manifested itself.

The completed study (December 1999) will provide data for 60 subjects including the study of other predisposing factors including absence of peripheral pulses, antihypertensive medication, level of haematocrit or haemoglobin and the use of quinine sulphate.

Study of diurnal rhythm of parathyroid hormone secretion in haemodialysed patients

024

*G. McGee, B. Sims
St. Helier Hospital, Carshalton, Surrey, United Kingdom.*

PARATHYROID HORMONE (PTH) LEVELS are measured at regular intervals and used to determine when to commence treatment with vitamin D analogues. Misclassification of patients, based on incorrect measurement of PTH levels could result in failure to manage patients with renal bone disease, appropriately and early enough.

It is known that PTH levels vary depending on the time of day, with measurements peaking in the early hours of the morning between 1-3am, and falling approximately 75% by 9am, and rallying again in the afternoon. Following a systematic literature search, no studies were found dealing specifically with diurnal variation of PTH in renal patients. If PTH levels continue to vary in a similar fashion in patients with chronic renal failure, then it is important to standardise practice as this will have important implications in the treatment and management of renal bone disease, and whether we are presently treating patients appropriately and meeting renal association standards.

To answer these questions, an ethically approved, collaborative project between nursing and medical staff in the renal unit and, chemical pathology department has commenced, funded by a regional Department of Health grant.

The primary aim of the study is to establish whether or not the normal diurnal variation of PTH is maintained in patients receiving haemodialysis, and secondly if so, does the timing of blood samples affect our ability to assess the quality of care provided to patients. Thirdly to determine the biological variation of serum bone markers.

Sixty patients who have given informed consent, will be categorised into 3 groups, dependent on the time they have received haemodialysis, new patients 0-3 months, intermediate 6-12 months, and established 12-36+ months. Patients will vary their shift pattern for one week, and dialyse at 7am, 13.00pm and 17.30pm. Pre dialysis blood samples will be obtained and PTH, renal profile, bone markers and ionised calcium will be measured. One sample will be taken post dialysis to measure bone markers. Age and gender matched volunteers who have given informed consent will be recruited as controls.

Subjective health state of the haemodialysed (HD) patients

039

*A. Mróz, K. Marczewski
Medical Academy, Swidnik, Poland.*

HEALTH PROBLEMS PERCEIVED BY PATIENTS with End Stage Renal Disease (ESRD) is an important measure of patient outcome. Alongside objective data (biochemical, anthropometric indexes), evaluation of subjective health state of the haemodialysed patients is an equally important element in the assessment of care taken of this group of patients. The holistic point of view takes into account the emotional sensations of the patients, his feelings and ability to function in his every day life. The aim of this study was to define health problems perceived by ESRD patients treated with maintenance HD and its influence on the activities of everyday life.

A study was carried out with the use of a Nottingham Health Profile (NHP) as a self-administered questionnaire.

Presented results concern patient's problems in the area of energy, sleep, pain, emotional reactions, social isolation, and everyday activity.

Two hundred men and one hundred seventy five women who underwent haemodialysis were examined. Based on this study it can be stated that many health problems occur in the examined group and have influence on fields such as: work, home activities, family life, sexual life and free time planning. Almost all examined patients (92%) reported health problems. The highest NHP score was seen with sleep (48) and energy (45) areas. Statistical correlation between age, duration of HD treatment and reported problems were found.

Results from the following study indicate the necessity of complex rehabilitation as a necessary element in patients' health care. The nurses' role for improvement this data ought to be stressed because of their most frequent contact with patients and their work focused on patients physical and psychosocial condition.

Hepatitis C virus – the need for nurse education

033

*B. Murray, H. Wilkinson
Renal Unit, Hope Hospital, Salford Royal Hospitals NHS Trust,
United Kingdom.*

THE AUTHOR HAS IDENTIFIED an absence of a protocol directing the screening of the Hepatitis C virus (HCV). On further pursuance of this absence, it was assumed to be due to a resource management issue. Within the region, testing for HCV is under review, however in order to prepare the nursing team for the impact that this initiative will have throughout Renal Services the author believes that it is imperative that the teams' knowledge of HCV is addressed. According to Watson (1997), the nurses' understanding of the virus, the occupational hazards, and the knowledge of universal precautions are indeed lacking, highlighting a real cause for concern. The author recognized the target population would need to include all renal staff, regardless of grade and experience, and in order to formalize and plan an education programme it was necessary to identify where any deficits of knowledge lay. An anonymous multiple choice questionnaire was sent out to all staff covering a number of topics which included universal precautions, the risks of transmission, and exposure to the virus. The data generated from this questionnaire was used as a basis for staff education prior to the implementation of HCV testing. Overall the study has identified areas of potential risk linked to the transmission of the Hepatitis C virus due to a lack of knowledge. The author has recommended the use of this data to formulate a protocol and standardize safe practice.

Tailoring haemodialysis to the patient's need – ultrafiltration and sodium modeling for patients with dialysis hypotension

017

*J. Nenaydenko RN M.A., V. Lipsky PT, V. Shani RN, A. Knecht M.D.
Sheba Medical Center, Tel-Hashomer, Israel.*

PROFILING HAEMODIALYSIS BY ULTRAFILTRATION and sodium modeling is a new approach to treat intradialytic vascular instability including hypotension, cramps, nausea, vomiting and headaches. Attempts to try to treat this instability by sodium modeling alone results in increasing thirst, interdialytic weight gain and recurrence of the instability symptoms. With the availability of haematocrit and blood volume monitoring on-line we have studied the effects of ultrafiltration modeling (major modality) together with a short time sodium modeling on blood volume changes and intradialytic stability. Seven chronic dialysis patients were studied. The modeling prescription was built by a physician and a dialysis nurse team and was individualized for each patient. The general theme of the prescription were: (a) a 60 min ultrafiltration period of 30-40% of the desired fluid loss. (b) a 15 min intravascular refilling phase. (c) a second 45 minute of removal of 25-30% of the desired fluid loss. (d) a second 15 minute intravascular refilling phase and (e) a slower removal of the 30-40% desired fluid loss in the 105 final minutes of the session. In the second part of the study sodium modeling was used only for a short time before, after and during each 15 minute refilling phase. No sodium modeling was needed in any other part of the dialysis. All patients studied felt much better through dialysis and after. Interdialytic weight gain was decreased by 0.5 kg on average and interdialytic symptoms were lessened significantly. In conclusion: Ultrafiltration and sodium modeling are a new tool towards providing a more physiological and symptom-free haemodialysis. The ability of this modality to lower interdialytic weight gain, to define better dry weight and to reduce antihypertensive drugs needs further evaluation.

Bye-Bye chemical disinfection with canisters?

009

*J. Pancířová
Haemodialysis Centre Parallel 50, Prague, Czech Republic.*

CHEMICAL DISINFECTION represents the method of choice for routine disinfection of dialysis monitors in our country. Although formaldehyde has been replaced by peracetic acid and/or hypochlorite based solutions, safety and efficiency of standard chemical disinfection procedure may still be compromised. Not all dialysis machines are able to detect insufficient disinfectant supply and/or correct concentration of the disinfectant solution. Thus, safety and efficiency of those procedures remain largely dependent on staff reliability and responsibility. Heat disinfection combined with citric acid cleaning using the single use cartridge concept seems to do away with all the risks mentioned. **METHOD:** Safety and efficacy of the following disinfection procedures were compared on dialysis monitors AK-95, AK-100 and AK-200 Gambro. Chemical disinfection with hypochlorite and peracetic acid based disinfectant, heat disinfection, and heat disinfection combined with decalcification using a cartridge containing citric acid (CleanCart C, Gambro AB, Lund, Sweden). **RESULTS:** All the above disinfection techniques were found effective if performed properly. However, the combined procedure of heat disinfection with a cartridge for single use was found to provide several substantial advantages over the conventional methods:

- Disinfection and decalcification are performed at the same time and the method thus saves time of the staff
- The risk of insufficient disinfectant supply is non-existent as is the risk of using wrong solution or solution with incorrect disinfectant concentration.
- Disinfection with hot citric acid solution is also more environment friendly than the conventional disinfectants

CONCLUSION: The philosophy of the cartridge for single use in disinfection seems to represent a kind of disinfection for the future. It provides maximum safety with regard to the risk of human error. Decalcification performed at the same time is an additional benefit enabling time and cost savings. This method is safe without doubt, easy and effective.

The elderly and dialysis

170

*I. Prkačin, M. Sabljarić-Matovinović, N. Dabo, I. Palčić
Clinical Hospital "Merkur", Division of Nephrology, Zagreb, Croatia.*

BACKGROUND: RECENT OBSERVATION in our haemodialysis center have shown that the survival times of patients who become dependent on dialysis in an advanced age (>65 years old) is increasing and are <40%. The gross mortality rate for this age group was 23.3% in 1992 according to a study conducted by Valderrabano. **METHODS:** We included all these patients in our dialysis center between the 1996 and 1999 who were over 70 years of age at the time dialysis began. Patients with diabetic nephropathy, acute renal failure and a survival time of <3 months were excluded. **RESULTS:** The average survival time of all patients was 24±20.1 months. The cumulative survival time of all our patients after 12 months was 67% and after 24 months 55%. After 48 months 25.2% were still alive. **CONCLUSION:** However, due to the fact that the percentage of considerably older patients who require dialysis is increasing, it would appear that a differential breakdown of this age group would be justified. The data presented here show that patients who commence dialysis, even if they are older than 70 years, may live for a number of years.

Which benefits of glucose containing dialysate for chronic haemodialysis patients?

018

J. Struyven, D. Wenderickx, A. Stagier
UCL. St. Luc, Renal Unit, Brussels, Belgium.

INTRODUCTION: ALTHOUGH MANY POTENTIAL BENEFITS may derive from the addition of glucose to dialysate of chronic haemodialysis patients (better dialysis tolerance among others), these benefits are as yet largely unproven. In addition, the potential deleterious influence of adding glucose on bacterial contamination has been suggested but not been systematically studied.

MATERIAL AND METHODS: We compared 51 stable chronic haemodialysis patients dialysed during 4 weeks (150 sessions in each period) firstly with glucose-free bicarbonate dialysate and thereafter with the same dialysate with 150 mg/dl added glucose. The number of dialysis sessions with hypotension (mild, moderate or severe) as well as with muscle cramps was registered throughout the study. Dialysate samples were withdrawn during dialysis at the beginning of the last week before disinfection of the water distribution system (i.e. the worst case condition).

RESULTS: 18% of dialysis sessions were associated with hypotension under glucose-free dialysate as compared to 14% with glucose containing dialysate (NS). Similarly, the percentage of sessions with muscle cramps was 4.4% under glucose-free and 4.6% with glucose containing dialysate (NS). However, the incidence of severe hypotension (15.55% with glucose-free dialysate) decreased significantly ($p < 0.02$) under glucose containing dialysate (7.49%). The nursing working time decreased significantly with the use of glucose containing dialysate: glucose pumps ($n=2$) as well as blood glucose monitoring in diabetics ($n=13$) were no longer needed or at least much less frequently.

Average dialysate bacterial counts (cfu/ml) decreased significantly ($p=0.02$) from 1088 ± 392 SEM ($n=19$) without glucose to 154 ± 52 ($n=20$) with glucose, in contrast to what we expected. This trend was observed irrespectively of machine type (Monitral, AK100, Integra). Interestingly, our concentrate manufacturer charged the same price for glucose-free and glucose containing dialysate, despite the cost of adding glucose to dialysate. This presumably reflects the fact that most Belgian units currently use glucose containing dialysate.

CONCLUSION: From our study, several moderate but definite advantages emerge, favouring the use of glucose containing dialysate: the nursing workload is reduced, the dialysis tolerance is slightly improved whereas the dialysate bacterial contamination is not worsened and even, surprisingly, improved, a finding for which no obvious explanation has been found so far. Finally, the nutritional benefits of glucose containing dialysate require further investigations.

Clinical impact of the Residual Renal Function in ambulatory division follow-up patients who start on regular dialysis treatment

001

A. Taratufolo, S. Egidi, A. Grassotti, F. Pedullà, M. Satriani, P. Galeotti, O. Carofei
Ospedale di Viterbo, Nefrologia a Dialisi, Viterbo, Italy.

RESIDUAL RENAL FUNCTION (RRF) on chronic uremic patients can play an important role on management of regular dialysis treatment (RDT) and it could be considered as an objective of different dialysis methods. The aims of this study was to investigate and do monitoring RRF on patients on RDT. We have evaluated RRF during 24 months in new patients that were starting on dialysis treatment in our center. About 104 new patients, 73 have not a RRF significant (< 0.25 ml/min); only 31 have significant RRF, expressed as Residual Diuresis (RD). These patients were selected in two groups: G1 (16pts=4f, 12m, age $53 \pm 3y.o.$) on elective dialysis treatment, known to ambulatory division follow-up. G2 (15pts.=7f, 8m, age $58 \pm 2y.o.$) on emergency treatment and unknown to ambulatory division follow-up. Were evaluated in two groups RRF on three subsequent moments: a) time 0 (on the first month of treatment); b) time 1 (after 6 months of treatment); c) time 2 (after 12 month of treatment). Types of membrane used were also not different. Pathology was: G1 - Diabetic Nephropathy on 4 patients, ADPKD on 2 patients, Gomerulonephritis on 1 patient, Systemic on 4 patients, traumatic on 1 patient, unknown on 4 patients. G2 - Diabetic Nephropathy on 4 patients, ADPKD on 2 patients, nephroangiosclerosis on 2 patients, Systemic on 5 patients, unknown on 2 patients.

G1: After 6 months RRF (RD) was present in 10/16 patients; and after 12 months in 7/16 patients. (1 patient had a transplant) with reduction of RRF of 66.9%
G2 7/15 patients after 6 months, and only 3/15 patients (1 patient was dead) after 12 months, with reduction of RRF of 68.9%. The speed reductions of RRF is more evident on patients who start on emergency treatment.
Time 0 16pts RRF (RD) 1.21 ml/min 15 pts RRF (RD) 0.58 ml/min
Time 1 G1 10/16 pts RRF(RD) 0.46ml/min G2 7/15 pts RRF(RD) 0.33ml/min
Time 2 G1 7/16 pts RRF(RD) 0.40ml/min G2 3/15 pts RRF(RD) 0.18ml/min
Our research gives evidence that reductions of RRF is particular evident on patients on emergency treatment; while if the dialysis treatment is elective, the RRF is maintained longer in more patients number and for longer time. The ambulatory division follow-up plays an important role on these patients, especially on the last moment of pre-dialysis management.

Assessment of blood pressure in haemodialysis patients

166

E. Sarafi, E. Mouloupoulou, Z. Tzekas, R. Tasoula, M. Sachtaridou, N. Kotzadamas, D. Tsakiris
Department of Nephrology, General Hospital of Veria, Greece.

HYPERTENSION IS A KNOWN RISK FACTOR for cardiovascular morbidity and mortality and effective blood pressure (BP) control is one of the main objectives in the treatment of haemodialysis (HD) patients. In order to assess the effectiveness of BP control in 35 HD patients we recorded BP before, 2 hrs, 4 hrs and 12 hrs after haemodialysis session and in the morning, noon and night of the following day for three successive months. There were 26 men (74%) and their mean age was 61.5 years. The mean time of patients on HD was 4.3 years (range 8 months - 11 years) and 91% of them (32 out of 35) had a history of hypertension at the start of HD. The proportion of patients with optimal systolic (< 140 mmHg) and diastolic (< 90 mmHg) BP was 20% and 80% respectively. After the HD session BP decreased significantly and the proportion of optimal SBP and DBP control improved to 63% and 91% respectively. This improvement was associated with a mean reduction of 2.4 kg body weight during the HD session and there was a significant correlation between individual ultrafiltration and reduction of both SBP and DBP.

These findings show that hypertension in HD patients is strongly volume-dependent and is a difficult task to achieve optimal BP control. It is recommended that a more vigorous assessment of hypertension should be employed in these patients in order to provide better quality of therapy and prognosis.

The influence of urea redistribution on Kt/V estimation

045

L. Vagiato, E. Athanasiou, S. Tounis, P. Kirriklidou, G. Polymeri, E. Mitsopoulos, D. Memmos
Renal Unit, Hippokraton Hospital, Thessaloniki, Greece.

UREA REDISTRIBUTION AFTER HAEMODIALYSIS (HD) may result to inaccurate estimation of Kt/V. Although blood sampling at 30 to 60 min HD for urea measurement is considered to contribute to a reliable Kt/V, it is impractical. The effect of 3 different methods of post HD urea measurement on Kt/V was evaluated in 50 patients on chronic HD for ($M \pm SD$) 9.5 ± 6.4 years. Blood samples were obtained before a midweek HD session and immediately post HD (method A), after reduction of blood flow at 50 ml/min (method B) and 30 min after the termination of HD (method C). Kt/V was estimated by the Daugirdas equation (2nd generation). Mean ($\pm SD$) Kt/V was method A: 1.3 ± 0.3 , method B: 1.24 ± 0.24 , method C: 1.12 ± 0.27 . Although there was a significant correlation between A and C ($p=0.972$, $p < 0.0001$) and between B and C ($p=0.945$, $p < 0.0001$), there was a significant difference between A and C ($p < 0.0001$) and B and C ($p < 0.0001$). Also, there was a significant correlation between percent reduction of urea (PRU) at 30 min post HD and Kt/V (method C) ($p < 0.0001$). In 33 patients Kt/V was ≥ 1.2 . In the remaining 17 patients, a Kt/V > 1.2 was accomplished after increasing blood flow rate (10 patients), using dialysers with increased membrane surface (6 patients) and surgical fistula correction (2 patients). In conclusion, although there is a significant correlation between the 3 methods of Kt/V estimation, methods A and B overestimate true Kt/V. PRU be a useful index of dialysis adequacy. Periodic Kt/V estimation may improve the prescription of dialysis treatment.

Improving patient safety by minimising temporary line use

169

C. D. Vass

Nottingham City Hospital, Nottingham, United Kingdom.

INTRODUCTION. TEMPORARY VASCULAR ACCESS for haemodialysis is associated with problems including those of insertion, and local and systemic infections. The need for temporary access arises in acute renal failure; or when permanent access fails or when End Stage Renal Failure (ESRF) is reached with no means of access. We initiated a study to minimise temporary line use and the associated risks to our patients.

METHOD: Between September 1998 to September 1999 numbers of lines inserted and removed, complication rates and infection rates were recorded prospectively. Accurate documentation from medical staff who inserted lines, and nursing staff who cared for patients after insertion was essential.

RESULTS: During the study 279 lines were inserted for emergency access, failed access and blocked or infected lines. Complications occurred in 24 cases (9%). The average bacteraemia rate was 4.1 per 1000 temporary line days. The average number of lines inserted during the study decreased despite an increase in activity within the unit. In the "establishment stage" (September 1998 – March 1999) ten patients out of 38 new ESRF patients with temporary lines, had line placement that was avoidable. From April to September 1999 only one patient from 21 had avoidable temporary access. Access was said to be avoidable where it was known for more than 12 weeks that the patient would require permanent access.

CONCLUSIONS:

1. The information alerts us to an increase in the number of lines inserted or a rise in complication rate.
2. The management of current patients and those approaching treatment has been improved.
3. The number of "avoidable" lines has dramatically reduced.
4. The reduction in line insertions should translate to improved patient safety in our ESRF population.

Evaluation of single needle double pump dialysis system as compared to double needle single pump dialysis

198

R. Wagner, N. Schwartz

Rabin Medical Center Bellinson Hospital, Haemodialysis Unit, Israel.

THE SYSTEM OF DOUBLE NEEDLE SINGLE PUMP DIALYSIS (DNSP) was considered to be the most efficient and widely used haemodialysis system. Since the development of the Single Needle Double Pump Dialysis System (SNDP), some clinical reports have claimed that this system is almost as efficient as Double Needle Single Pump Dialysis. In the present research we performed a clinical comparison of these two systems. 14 regular patients from the unit volunteered to participate in the research. Patients were dialysed for successive one month periods using SNDP and DNSP. Other components such as dialyser, dialysate, blood-flow, duration and dialysis machine were identical. At the end of each month-period, blood tests were performed, and the efficiency of dialysis was estimated using Kt/V , PCR and URR. We also measured recirculation. Parameters of the Patients' well-being were also followed. The results were analyzed statistically. The results indicated no significant differences in the efficiency of dialysis between the two systems. The recirculation measured in all patients with SNDP was less than 10%. The parameters of well-being improved during the period of SNDP. It was concluded that the SNDP dialysis system provides an efficient haemodialysis treatment option.

Developing a home haemodialysis selection criteria

029

J. Warrilon, C. Doyle, P. Simoyi

Queen Elizabeth Hospital, Birmingham, United Kingdom.

IN THE PAST HOME HAEMODIALYSIS (HHDX) has not been considered a cost effective treatment option. In early 1999 the HHDX program at the Queen Elizabeth Hospital consisted of only 6 patients. Due to ever increasing numbers of renal patients requiring dialysis and the number of patient inquiries regarding HHDX, there was a need to address home haemodialysis as treatment option once again. Following the review of the HHDX service it was agreed that the number of patients could be increased to 20.

Prior to the expansion of the HHDX program it was necessary to evaluate current practices and documentation. It was agreed that in order to select the most suitable patients for this treatment a selection criteria needed to be developed, for the service to run efficiently a referral pathway was put in place.

The main aspects of the criteria involved assessment of the patients well-being whilst on dialysis including medical and psycho-social stability. The carers commitment to HHDX was also taken into account. The criteria was developed with the involvement of the multidisciplinary team to ensure a holistic approach to the care of this patient population. In the event of a patient not fulfilling the criteria an action plan was implemented to address any existing problems and a review date was set.

Following the implementation of the above it has been easier to identify suitable patients and carers for the HHDX program. The decision not to commence a patient onto HHDX has been simplified as the patient is aware that it has been based on a set assessment criteria and that they could be re-assessed at a later date. The referral pathway has improved communication amongst the multi-disciplinary team and the transition from unit haemodialysis to HHDX is more structured.

Evaluation of long-term haemodialysis (>10 years)

165

A. Zolota, P. Karabatakis, A. Belechri, P. Giamalis, G. Polymeri, D. Memmos
Renal Unit, Hippokraton Hospital, Thessaloniki, Greece.

THE CLINICAL COURSE of 32 patients on long term haemodialysis (HD) over 10 years, ($M \pm SD$ 16.9 \pm 5.4 years) was studied. Acetate solutions were initially used in 30 patients for $M \pm SD$ (7.6 \pm 5.7) years. The use of bicarbonate HD since 1992 in all patients reduced acute side effects. Haemofiltration, haemodiafiltration and biofiltration were used in 18 patients. Cuprophane and cellulose acetate were used for ($M \pm SD$) 7.7 \pm 4.3 years in 30 patients and were replaced with more biocompatible membranes in 1989. During the follow up period, 11 patients were receiving antihypertensive drugs (34.4%), 6 developed ischaemic heart disease (18.8%) and 20 had hyperlipidaemia (62.5%). Twenty five patients who developed secondary hyperparathyroidism were treated with calcitriol and 19 received a parathyroidectomy. Thirteen patients (40.6%), who had a positive desferrioxamine test (DFO) were treated with DFO. Two patients were HBsAg (+) positive and 19 were HCV (+). Twelve patients who received a renal transplant, returned to HD because of graft rejection after ($M \pm SD$) 2.8 \pm 2 years. Evidence of dialysis amyloidosis (DA) (carpal-tunnel syndrome, arthralgias with bone cysts, especially of shoulders was found in 27 patients (84.3%). At the end of follow up 21 patients had a satisfactory rehabilitation. In conclusion, improvement of HD methods provide a good quality of life to patients with chronic renal failure. Chronic complications, such as DA and cardio-vascular complications, still persist in many patients.

Writing a policy for the haemodialysis unit to ensure comprehensive performance and minimize incidents of conflict between the treating staff and the patients

012

*E. Zur, Y. Brandiner, S. Lap, G. Meister, K. Ravid, Z. Gavish
Rambam Medical Center, Haifa, Israel.*

RATIONALE: CERTAIN FACTORS have pointed out the need for writing a policy for the Haemodialysis Unit as a means of improving the quality of treatment and service: 1) changes in the health system in the legal, professional and social aspects, 2) confrontations and misunderstandings between patients and staff concerning professional and personal subjects. Aims: Comprehensive, consistent and predictable performance; appropriate pleasant and safe treatment conditions according to the "Statute of Patient Rights"; increase the satisfaction of the patients and their families; construct tools in order to deal with irregular situations; improve cooperation and communication between staff and patients; preserve medical equipment and avoid waste; receive backing from the department and hospital administration; reduce conflicting situations between patients and staff.

Process: Set-up a work group composed of 5 staff members and 3 patients; set-up a country-wide inquiry to check existing policies in dialysis units; arrange 8 work meetings for writing of the policy; receive feedback from the multi-disciplinary staff, re-write the policy; present the written policy to the hospital's legal adviser to get legal validity; obtain approval from the department and hospital administration; present the policy to the entire staff, translate the policy into Arabic and Russian; transmit the policy to the patients by an appointed nurse; receive feedback from the patients and document; analyse the conclusions.

Results: Existence of uniformity in the performance of the multi-disciplinary team; full backing given by the department and hospital administration; a rise in patients' satisfaction; improvement in the dialysis room's atmosphere: decorum, order, cleanliness and safeguarding of individual privacy; quality treatment, quick and available.

Conclusions: The development of a uniform and clear policy raises both the quality of treatment and satisfaction of the staff and patients; clear work

rules are an essential condition for doing professional and humane work, which assures patients' rights; receiving feedback from the patients is indispensable in achieving cooperation; the patients' participation in the writing of the policy increases the feeling of belonging and of taking responsibility; involving the lawyer and management gives the staff a feeling of security and backing, enabling them to act according to policy; it is necessary to assess the need for continually correcting the policy at fixed time periods.

Paediatric

The change from ritualistic exit site cleaning and dry dressings, to a hydropolymer adhesive dressing in a children's renal unit

190

*E. Wittich
Birmingham Children's Hospital, Redditch, United Kingdom.*

THIS ABSTRACT IS A BRIEF DESCRIPTION of how our unit identified a problem in our haemocatheter exit site care. As a result of frequent crusty exit sites and infections, the healing process of such a wound required reviewing. It was thought that the dry traditional dressings were the reason for this delayed healing.

Maintaining a well healed, infection free haemocatheter exit site in a young child is not easy. Though we treat such wounds with great care, children playing don't always hold the same respect.

After studying the dynamics of wound healing, it was obvious our protocols needed reviewing. Good wound healing requires minimal interference, an optimum temperature, and adequate nutrition, to be free from infection and securely covered for protection with a dressing, which provides a moist environment.

Aseptically cleaning with Iodine and applying a dry dressing was not providing the wound with the optimum environment it required for healing.

The difficulty however was stopping nurses ritualistically cleaning the exit site and renewing the dressing every dialysis, as this interfered with the healing process.

However as a result of a change in practice from repeated interference, to less wound interference and to a dressing which provides the ideal environment, the healing process of our haemocatheters, has improved. We have also recognised less exit site crusting and infection, and have improved the patient comfort factor as a result of less dressing changes. Likewise this has reduced costs and nurses time. We do however still secure the haemocatheters well, so as to avoid being pulled during play.

Peritoneal dialysis – a competency based practice initiative

187

*M. Fallon, D. Davies
University Hospital of Wales, Cardiff, United Kingdom.*

IN JULY 1999 'PERITONEAL DIALYSIS IN THE COMMUNITY' became a reality, and 80% of patients are now trained in their own homes. However, to ensure the successful implementation of this programme, ward based Nephrology nurses had to undergo a competence based education and training programme. The training programme involved educational sessions addressing anatomy and physiology, peritoneal dialysis complications and associated treatments. Assessment of competence is often considered subjective and inconsistent. To avoid these pitfalls we developed a competence based practice document based on the Bondy criterion referenced rating scale for the evaluation of clinical practice. Explicit peritoneal dialysis competency statements, incorporating knowledge, comprehension, skills and attitude, were assessed on a 5-point rating scale to ensure consistency in PD practice on the Nephrology wards. The assessment was standardised utilising predetermined criteria. The use of a competence based assessment document has several benefits for both the practitioner and the care organisation. Practitioners comment that it enables them to objectively articulate the strengths and limitations of their performance and reduces subjectivity in assessment. From the service perspective competency based assessment offers a framework to both standardise and evaluate practice. As a result the Nephrology ward nurses now successfully care for PD in-patients, enabling the PD unit to focus on community care.

Computer-based nursing management of a peritoneal dialysis service

187

*B. Leypziger, L. Maroix, Y. Kol
Medical Carmel Center, Haifa, Israel.*

CONCERNS ABOUT THE QUALITY, cost and outcome of health care have become a major driving force in nursing management. Competition and cost containment have faced nurses, as an integral part of the care-providing organisation, with new challenges. Herein we describe a computerised system, designed and used by nurses, based on collection data that are generated in the process of clinical intervention assessment in the setting of peritoneal dialysis (PD). The system was found useful in the following aspects: (1) information resources, (2) quality assurance, (3) clinical research and (4) cost effectiveness. The system includes two categories of data: administrative and clinical. A special emphasis was put on interventions that will improve cost effectiveness. To achieve this goal two purposes were defined: (1) to measure cost effectiveness by using professional criteria (i.e. frequency of PD typical complications). (2) to develop continued nursing care plan for the purpose of patient outcome improvement. We used it from January 1998, during which time complication rate was comparable to published professional standards. In addition, expenses control helped decrease operational costs. Since only two year's experience is presented, the full impact of the system on the unit cannot be fully summarised. However, it serves as a powerful tool on which evidence-based decisions and measures can be taken. Without such evidence (data), any intervention would appear like "a shot in the dark".

Telemedicine for remote dialysis patient care

091

S. Quadri, B. Riboli, I. Viscardi, V. Paris (RN), G. Remuzzi, N. Perico (MD) – Telecommunication Development, A. Remuzzi, EngD, I. F. Sangal (MS) – Biomedical Engineering Laboratory Mario Negri Institute Bergamo Nephrology Unit – Azienda Ospedaliera – Ospedali Riuniti di Bergamo, Italy.

BACKGROUND

- ◆ Some patients on peritoneal dialysis (PD) are not completely autonomous and need frequent medical assistance.
- ◆ Often these patients are old, they live alone and have difficulties in travelling.
- ◆ Some patients on PD live far from hospital facilities
- ◆ Nurses and nephrologists can not leave their locations to monitor these patients.

Aim of the project:

- ◆ Use telemedicine for remote assistance of patients on PD,
- ◆ Set up a videocommunication system for remote:
 - 1) evaluation of hygienic conditions of the environment and the patient;
 - 2) supervision of patient compliance with correct procedures;
 - 3) inspection of exit site for possible complications (i.e. infections);
 - 4) check for dialysate infection, ultrafiltration volume, peripheral oedema.

Hospital side	Patient side
Local and remote video and audio	Easy operation without computer and software
Control of remote videocamera	Easy operation with hand set remote control
Acquisition and storage of remote video frames	Press button operation to make a call
Windows 95-compatible	

Communication line: conventional ISDN telephone line (2 x 64 kbs)

Results:

- ◆ The system allows useful and adequate remote medical assistance to patients on PD.
- ◆ Nephrologists and nurses can satisfactorily monitor patient procedures and clinical condition.
- ◆ Patients experience useful guidance and personal contact with physicians and nurses.

Future developments:

- ◆ Remote monitoring of several patients.
- ◆ Storage of video frames for later comparisons and statistical analysis.
- ◆ Avoid travelling of patients living far from the hospital who are not completely autonomous.
- ◆ Avoid home visits by nephrologists and nurses.

Movie for telemedicine demonstration: 7 Min duration

Monthly intravenous (iv) iron administration is effective and safe in deficiency in peritoneal dialysis (PD)

174

B. Marron, M. P. Manrique, A. Ortiz, S. Casado
Fundacion Jimenez, Spain.

IVIRON ADMINISTRATION has been extensively studied in EPO-treated haemodialysis. However, PD patients have less EPO requirements and iron loss, and protocols for iv iron administration are not well defined.

We have prospectively (6 months) evaluated the viability and effectiveness of monthly iv ferric sodium gluconate administration to coincide with a periodic check-up.

Twenty iron-deficient (ferritin <100 ng/dl or transferrin saturation (TSAT) <20%) PD patients with no prior parenteral iron administration nor blood transfusions in the previous 6 months were treated with monthly iv iron infusions. Mean age was 70 years (range 39–84) and mean time on PD was 28 months (5–97). The mean total dose of administered iron was 781±67 mg/patient. EPO therapy maintained a Hct 33–36%. Five patients did not complete the treatment: 2 died, 1 transplant, 1 for difficulty with vascular access and 1 for a possible adverse effect. TSAT >20% and ferritin >100 ng/ml were reached in 64% and 78%.

Month	0	3	6	p o vs 6
Hct %/HB (g/dl)	33.8±0.8/11.1±0.3	35.6±0.7/11.4±0.2	33.8±0.6/11.1±0.2	NS
Ferritin (ng/ml)	88±19	153±29	241±56	p=0.0001
IBC (µg/dl)	288±9	286±9	257±6.2	NS
TSAT %	13.3±1.1	22.5±1.7	23.2±1.5	p=0.0005
EPO (U/Kg/week)*	43.5±9	40.5±11	31.7±11	p=0.085

Patients with EPO treatment (n=11).

Putative adverse effects were observed in 2/82 infusions (2.4%): 1 peritonitis coincident with first administration and 1 hypotension.

In conclusion: 1) The administered dosage is an efficient, safe and useful protocol for repletion of iron stores. 2) Hematocrit level was stable. 3) A decreased tendency in the needs of EPO was observed.

Early PET results – a reliable indicator for treatment modelling?

097

P. Thorn
Oxford Radcliffe Hospital, Oxford, United Kingdom.

THE PERITONEAL EQUILIBRATION TEST [PET] is a widely used tool to help plan dialysis regimes for patients on peritoneal dialysis. How soon after starting dialysis is it feasible to perform a useful test and is it likely that the patient's membrane status changes over a short period of time resulting in the need to repeat the PET or caution when modelling a patient's regime?

- ◆ This study looked at 34 patients who were new to end stage renal failure and were being managed with peritoneal dialysis. A PET was performed within 12 weeks of starting dialysis [mean 47 days, range 30 to 73 days] and then again approximately 3 months later [mean 98, range 76 to 133 days]. The aim of the study was to see if there was a change in the patient's membrane status from the initial PET to the one at 90 days, and could PETs that are performed soon after a patient starts dialysis reliably be used to model a patient's regime?
- ◆ Each PET was performed using a 2.27% glucose concentration. The volume of fluid used and the overnight dwell were the same as the patient routinely used.
- ◆ 47% of patients were found to have the same membrane status at both PETs, 32% of patient's membrane status were found to be lower at the second test than the first and 21% of patient's membrane status were found to be higher at the second test than the first. Although 53% of the patients changed their transport status category the mean difference between the two results was 0.016 with a P value of 0.4 which equates to no statistically significant difference between the two results.

Conclusion: A peritoneal dialysis patient's membrane status category may change during their initial time on dialysis but any change is of no statistically significant value. A PET recorded between 30 days and 133 days on dialysis can reliably be used for modelling a patient's dialysis regime. Our practice of referring to patient's membrane status as high, high average, low average and low could prove misleading and it may be more helpful to refer to D/P creatinine ratios in practice to provide greater accuracy.

Psychosocial Care

The pre-dialysis experience: Are the needs of the individual being met?

119

J. Andrew
Department of Nephrology, Morriston Hospital, Swansea,
United Kingdom.

PRE-DIALYSIS EDUCATION PROGRAMMES are often based on what health care professionals feel patients should know rather than on what patients and their families consider they need.

This paper utilises a qualitative approach, using Grounded theory, to identify the patient and families perspective of the pre-dialysis experience. Semi-structured interviews, undertaken within the home setting, produced a series of themes which were coded, indexed, theorised and analysed using a software package known as QSR Nud*ist 4.

The emergent theory identified that an individual's reaction to the diagnosis of chronic renal failure is frequently one of shock, fear and bewilderment. Under these circumstances support is important but there is also a need for understanding of both problem and treatment. The pre-dialysis experience can equate to a journey. Successful passage involves adequate time to assimilate and adjust to the changes and is aided by a constructive perspective. Patients and families make the journey from diagnosis to a decision regarding treatment if their particular needs have been met.

A pre-dialysis model for good practice would incorporate provision of holistic care designed to consider the needs of patients and their families. The model would require a flexible format and its success is conditional on the entire multi-disciplinary team being supportive. In addition, holistic care provision is incumbent upon each renal unit identifying the needs of the population they serve.

The insane patient in dialysis: assistant nurse

122

A. di Carlo, A. Scalzo, A. Arisnti, S. Contrino, A. Fantuzzo, D. Pinel,
L. Minisini, C. Cigalna
Call Cesano, Desio, Italy.

THE ASSISTANT TO A PERSON suffering from insanity (progressive decline of the ability of memory, reason etc.) is a difficult and binding assignment. The illness of Alzheimer (AD) is the most common form of insanity. Our experience is based on picked data in the arc of eight years (from 90 to 98). In this period we have selected a group of patients who had personality troubles. The total number of patients is 28 with a biological average age of 75.8, time in dialysis from 8yrs 5mths, of these 21 now deceased and 7 now in treatment. Of these only 12 had a certain neuropsychiatric diagnosis and therefore they had been prescribed the appropriate medicines.

For the others, 15 had a set generic diagnosis of decline of the psychic functions. We have analyzed two cases, that seemed more meaningful.

1. Woman of 87 years with ATS vasculopathy, disorientated in space and time
2. Man of 88 years with rituals to respect

Conclusion

Find answers to ethical questioning, that in many cases we told ourselves is not simple. Up to what point does the patient need tell enough with the dialysis?

When does the need to keep silent begin? This type of worn-out patient daily presents frustrating problems to the personnel. The patient shows the need for psychological support (eg. Balint groups) which could be of help to the nurses to remove risks of professional demotivation.

The need to care. Equating High Technology and dialysis patients needs

040

C. Ashwanden
Dellwood Hospital, Reading, United Kingdom.

THIS PAPER EXAMINES THE NEED TO CARE for the human being with renal failure. Has the high tech machine replaced the human contact which is required to provide for the psychological needs of those with chronic renal failure. During the course of her research the author has visited many dialysis units and has been made aware of the patients' need for human contact while receiving haemodialysis. The factory-style production line is the necessity in modern units, with their ever increasing workload. The needs of the individual are subjugated to the need to keep treatment production running at maximum efficiency. The author found that individuals especially the elderly are being pushed through the routine treatment with no special attention to their needs or wants. The findings of this paper showed that nursing staff are too busy to chat and once the machine and patient are programmed the patient is abandoned to his/her 4 hour session on the machine with only a bell ready for emergencies. The patient has little influence over his treatment when the high tech machine plans everything down to his fluid intake while on the machine. Research shows that nurses are leaving the dialysis units preferring the more human contact that occurs while assisting in peritoneal dialysis and the home visiting. The author concludes that although the old machines could not deliver quality treatment, the extra human contact which occurred during the lengthy programming of these old machines did provide a real source of comfort and support for the person receiving RRT. There was an accepted culture of talking with patients, and relationships grew and flourished. We must find time to go back to basics and offer the psychological and social support our patients need.

HD or CAPD – Which is the best for the diabetic patients?

185

M. J. M. Candido, M. E. L. Novais
Hospital Curry Cabral, Lisbon, Portugal.

THE ULTIMATE GOAL of any health professional committed to improving quality of life is to promote physical, psychological, social, cultural and spiritual well-being satisfactory to the client or caretaker. In fact, it is the caretaker, not the professional who determines what is satisfactory and who knows whether these proposed achievements are appropriate, desirable or valued. The impact of a diagnosis of Diabetes (D) and lately an End Stage Renal Failure (ESRF) adding the choice or not of a long life treatment can be devastating both for the patient and his family. In order to know better which are the major problems of the D patients included in two modalities of treatment, we are carrying out a comparative study in two groups of patients (P). Group I (GI) Hemodialysis Programme (HD) and group II (GH) Continuous Ambulatory Peritoneal Dialysis (CAPD). Our main goals are to evaluate the main stress and coping mechanisms (tested stress and coping scales were used) that these patients use while living this situations and, in collaboration with them, to define strategies to cope with it. Our sample has by now 50 patients average age 55.8 years, 35 female – 15 male having had the diagnosis of Renal failure for average time of 24 years and mostly 85% using Insulin for 16 years (average). Group I - 40 P is in HD -average 9 years and Group II - 10 P in CAPD average 5 years. Mostly 80% are married and live with husbands/wives and sons/daughters. There are differences between the work situation comparing the two groups. In Group I before HD 70% patients worked full time and now 65% are in a retirement situation and in group H 75% worked full time before and now 70% have the same situation. The other patients were already retired in both groups. The stress factors are mainly related to physical problems such as blindness or difficulties to walk for both groups. In group I problems arise related to drinking and eating freely, while in group II these problems had not that impact compared with the performance of the CAPD technique. The best way to deal with all these problems is for GI to talk with nurses during the HD sessions. For GH there is a feeling of great loneliness performing CAPD at home and with nobody to talk to. Other factors will be pointed out at the end of this study as well as the statistical tests (Wilcox M Witney will be used to compare impaired samples). In this first approach we believe that support strategies should be available and decided with the patients in order to help them achieve a better quality of life.

Dialysis dose versus quality of life

193

W. Lutters
St. Maartens Gasthuis, Venlo, The Netherlands.

A few years ago the haemodialysis centre of our hospital started with the research method KT/V and commenced a study to define the recommended KT/V for a patient. They investigated all the technical aspects, but, unfortunately, they forgot the most important issue namely the patient. What did the patient think about this KT/V research method, how were the patients feelings? During my study I realised, that patients don't receive complete and appropriate information. They don't know what KT/V actually means and therefore they don't know how to cope with the situation. The patients had to undergo treatment without knowing the impact on their lives. The main reason for it is the lack of knowledge in generality. The aim of my study was to find a balance between the dialysis dose and a reasonable quality of life during the treatment period. If we are able to give better information, the patient is able to decide whether he wants to undergo the treatment. The patient has to realise, that if a KT/V figure is less than 1.2, the dialysis dose has to increase. Some patients don't mind having to dialyse for a longer period of time, because they feel sick and hope to feel better after treatment. Other patients feel that a longer period of treatment has a negative impact on their quality of life. Their opinion is, that:

- they have less social life;
- they have less spare time;
- they have less time at work;
- they only live for the dialysis treatment.

If the balance of dialysis dose and treatment is negative compared to the quality of life, patients can get depressed and sometimes they even decide to stop medical treatment.

Process

The results of my study were introduced at the dialysis centre of our hospital. Nowadays the patient gets the appropriate information and will be able to decide if he or she wants to undergo the medical treatment. The patient is able to define its own quality of life and is more satisfied. The staff is better skilled and is able to give the information the patient needs.

Conclusion

The KT/V examination is a good instrument to be able to look at the adequate way of dialysis treatment. Different aspects are important for the patient to make him or her feel well. Being well physically is important, but mental and social health is even more important. The patient has to be informed with regard to the treatment, which will ensure the patient, that this treatment is unique and tailor-made.

The influence of family environment on the patient undergoing renal replacement therapy 129

I. Moltó
Hospital General de Alicante, Spain.

INTRODUCTION: The absence or restriction of social support has a direct and negative influence in patient's quality of life, leading to delay in recovery, no illness acceptance, increased mortality rate or a bad state of mind. All these factors have an important impact on individual mental health.

AIM: To compare social and family environment as it is perceived by the patient under two different modalities of renal replacement therapy (RRT): Haemodialysis (HD) and Peritoneal Dialysis (PD).

MATERIAL AND METHODS: Family environment was studied with the FES scale (R.H. Moos). This scale evaluates and describes the most important features of interpersonal relationship between the members of the family and its basic structure.

Forty end stage renal patients on RRT for at least three months before the beginning of the study were included: Fifteen on HD therapy and twenty five on PD. In the HD group, patient's mean age was 58.9 years (ST: 13.8); 9 male, and 6 female. In the PD group, patient's mean age was 51.7 years (ST: 17.8); 14 male, and 11 female.

RESULTS: The patients under PD reach a higher score concerning the item "Cohesion" and the dimension "Stability". The item "Control", reaches a higher score in HD patients.

Dimension	Relationship			Development					Stability	
	Cohesion	Expression	Conflict	Autonomy	Actuation	Intel-Cult	Social-Rec.	Moral. Rel.	Organisation	Control
HD	6,3	6	2,2	5,3	5	3,3	3,4	4,4	6,8	3,7
PD	7,4	5,9	1,9	5,6	5,7	4,3	4	4,3	6,6	3,1

The differences between the perceived familial environment in the patients on HD and PD are not statistically significant.

CONCLUSIONS: We conclude that the perceived familial environment is similar for HD and PD patients, although the load that the family support in the therapy application is different because of the particularities of each modality.

Coping with dialysis, focus on the partner in guided group sessions 120

S. v. Sandwyk, P. Munz, G. Siegers
Universitair Medisch Centrum Utrecht, Arschelluinen, The Netherlands.

IT TAKES A LOT OF TIME, effort and energy for a ESRD patient to adjust his life to the lifestyle needed for chronic dialysis. Also the patients partner has to get used to this change in lifestyle. The partners are often anxious and unsure regarding the patients situation. Moreover the illness can take control of their lives. The forced role of caretaker weighs often heavy on the partner. First, all care and attention is directed to the patient. The partner comes next, often receiving insufficient guidance and support in handling the changing situation.

For 2½ years now, a series of 7 group sessions is being organised twice a year by our hospital based dialysis unit for the dialysis patients and their partner. Sessions take place in a meeting-room at the hospital. Ten to twenty persons participate on voluntary basis. The sessions are chaired by a qualified nurse and social-worker from the dialysis unit. The goal of the sessions is: Support of partner and patient; Coping; Psychological education; Exchanging and sharing of personal experiences. Subjects being discussed are: What has changed since the start of dialysis; Stages of coping with illness; Assertiveness and legal aspects in the doctor-patient relationship; Expectation of the future; Leisure activities; Sexuality. Every meeting one subject is being discussed, the subject being provided in advance to the participants. Also a list is composed of the knowledge and experiences of the participants. Then theory is taught. At the end of the session the subject and the discussion are evaluated and a new position is distributed for the next session. After every session the nursing staff is informed which subject was discussed enabling them to continue with the topic if needed. Personal details of patients concerning the sessions are not being distributed to the nursing staff without the explicit approval of the patient and partner. At the end of each series of group sessions an evaluation took place by questionnaire. Results show that the sessions are very useful for the patient as well as for the partner; theoretical sessions provide more background information about psychosocial aspects of kidney disease. Discussing one's emotions in an environment that differs from the hospital appears to be very comforting. We may conclude that guided group sessions for partner and patient are making it easier to learn how to cope with the changed situation due to dialysis treatment. The psychosocial aspect is also emphasised as a result of the privacy in the small groups and the personal subjects being discussed.

The social profile and self-sufficiency of hemodialysis (HD) patients 006

M. Švandrlíková, A. Kepková, A. Kovářiková, J. Eiselt
Department of Internal Medicine I, University Hospital, Plzeň, Czech Republic.

The authors analysed the data of 94 patients (45 women and 49 men) treated in a clinical HD facility for a period of 31 months (median, range 4-315). The authors compared the social status and self-sufficiency at the time of inclusion into the HD programme with the current status of patients. The role of social workers providing, in the HD centre, consultations and practical assistance in handling social problems was also evaluated.

	Start of HD	Current status
Age	60.6±14.4	63.7±13.2
Not past their retirement age	36%	34%
Working	16%	2%
Able to take care of family and household	51%	35%
Self-sufficient	76%	55%
Dependent on help by family	19%	30%
Requiring help by non-family members	3%	7%
Nursing home resident	2%	8%
Diabetes mellitus	28%	28%

HD patients are dependent not only on the HD device and HD unit staff but often need systematic care by the family or other persons outside dialysis. The high number of our HD patients who do not work and are not self-sufficient is due to variety of factors. The age and polymorbidity of individuals indicated for HD are increasing. Patients in good condition undergo transplantation while many patients capable of taking care of themselves are treated by CAPD. The numbers of non self-sufficient and socially problematic individuals rise once they start HD. Social workers constantly update all HD patients on the possibilities of social support; and have provided other forms of specific help for 30% of HD patients. The system of the social worker service helps overcome the problems faced by HD patients. The above data show the importance of this help is increasing.

Is renal replacement therapy always the best option for patients approaching end stage renal failure?

121

*R. Tibbles
Barts & The London NHS Trust Renal Unit St. Barts Hospital, London,
United Kingdom.*

Part of the role of the pre dialysis nurse is to educate patients about the practicalities of renal replacement therapy so that they can make an informed decision about whether or not they wish to embark upon treatment. There are an increasing number of very elderly patients, and patients with significant co-morbidity being referred for consideration for renal replacement therapy (Raine 1995). Many of these patients can do well on dialysis and enjoy a good quality of life (Schaefer and Rohrich 1999). However, renal replacement therapy may not always be the best option, particularly when patients live alone with minimal social support and are frail and dependent. This paper discusses how best to approach the issue, of whether or not to undergo dialysis, with patients before they approach ESRF, involving families and other health care professionals as appropriate. Four case studies will be discussed of patients who have chosen not to have dialysis. The factors influencing their decision and the role of health care professionals in the decision-making process will be highlighted. The paper also suggests how these patients can be supported by the nephrology unit in terms of symptom control, psychological support and palliative care either in hospital or in the community.

The social climate in the chronic haemodialysis unit as perceived by patients and nurses

004

*N. Vitri, M. Attias
Renal Medical Services Ltd. Adler Clinic, Jerusalem, Israel.*

The purpose of our research was to check if there was a correlation between how patients perceived the atmosphere in the unit as compared to the nurses' perception. Our intention was to examine commonality and differences between the two groups. This would serve as a basis to change the behaviour of the nurses and/or to develop or create more suitable settings. Sixteen haemodialysis units in Israel participated in this study, a total of 180 participants of which ninety three were nurses and ninety seven were patients. Patients and nurses gave their consent in writing and answered anonymously. The Moos Ward Atmosphere Scale was used using 100 true and false questions. These questions were condensed into six main categories. Our results showed that the patients and staff had significantly different perceptions in the following categories: 1. Openness and sensitivity, 2. Staff attitude, 3. Order and organisation, 4. Mutual support, 5. New treatment approaches. The greatest degree of agreement between the two groups is found in only one category: that of the doctor's attitude or behaviour. We have found three studies that have investigated the atmosphere in the unit as perceived by patients and staff - two in Israel in an oncology unit and in a psychiatric unit. The third study was done in a haemodialysis unit in the United States by Rhodes and we compared his results to ours. Conclusion: The differences found between nurses and patients shows that there is a communication problem. We recommend improving interpersonal communication that will close the gap in perceptions; thereby improving the unit atmosphere, developing new strategies for coping and helping the patient to adjust.

Improvements in care: A collaborative approach to rehabilitation

128

*C. Wilde, H. Chamberlain
Leicester General Hospital NHS Trust, Leicester, United Kingdom.*

With the escalating numbers of elderly patients being taken onto the end stage renal failure programme (50% over 65 years) the demands on the service have changed. The Department of Nephrology recognised that a more structured and rehabilitative framework of care was needed. There was also no single point of contact for medical staff to refer patients for pre-dialysis assessment. Ideas were collated and the theme that emerged was that the day training area, day case unit and community teams needed to expand and share existing roles and responsibilities which would create a team approach to pre-dialysis and ongoing care of patients with renal disease. Patient information and training needed to be standardised and individual roles and lines of communication clearly defined. Through collaborative work with the Occupational Therapist and other members of the MDT a new way of collecting patient information, assessing priorities and establishing patient goals was developed. Individual patients are now referred to a specific team who are responsible for the total nursing care for the patient from the pre-dialysis stage to the commencement of dialysis and their ongoing care in the community. The use of creative problem solving between professionals is a lesson that can be learned world-wide. The close use of an Occupational Therapist to help adapt nurses' way of planning care for our patients has begun to provide a rehabilitative approach to the continuing care of patients requiring renal replacement therapy. This helps to meet Government directives to health authorities regarding reviews of their rehabilitation services and meets the demands of the Health of the Nation Document (DOH 1992). Following an audit, prior to the change only 6% of our patients were prescribed exotic therapies and aids this has now increased to 35%. As a result of better co-ordinated information and support pre-dialysis cancellation of access surgery by patients has been reduced by 50%. Verbal feedback from patients suggests that they feel better supported and well informed. A patient satisfaction questionnaire has been distributed and early results suggest a favourable response.

Disease monitoring and management: a nurse's goal

135

*B. Amadori**S. Maria delle Croci Hospital, Ravenna, Italy.*

The 1998/2000 National Health Plan put the rationalisation of health intervention among its objectives. The knowledge of therapeutic and diagnostic paths and of clinical outcomes obtained allows to direct the disease management both on the individual and on the population. At the Department of Nephrology all clinical, physical and laboratory tests undertaken by patients since 01.01.99 are being stored on PC with the purpose of collecting all data necessary to the development of this work method. Nurses participate in the patient's memory creation and in data storing. Data gathered for each single patient are grouped together with other data deriving from General Practitioners and from other Local Health System databases and then elaborated by an experts' team. A database is being built with all information referred to the single patient and with the possibility of update where necessary. From this database it is also possible to get information for epidemiology, pharmacoconomics, phamacoepeidmiology and quality control purposes and for the creation of guidelines for disease treatment and for the health resources' management. The study carried out to evaluate the feasibility of this work method has taken into consideration the costs of diagnostic paths and of therapeutic intervention in patients affected by acute pyelonephritis (APN) who were hospitalised in Nephrology Department between 01.01.85 and 31.12.85 and it has determined their impact on reimbursement foreseen by DRG system. Seventy-seven patients have been evaluated. The total cost is equal to ITL 81.389.282, divided in 69.3% for tests and 30.7% for drugs. The average cost per patient in the first three days of hospital stay is responsible for an amount of money equal to 37.9% of the average cost of hospital stay, because of the high concentration of diagnostic tests (equal to 62.7% of all tests carried out). The costs for tests and for therapeutic treatment ranges from 22.9% to 31.7% of the tariff foreseen by related DRG.

Influence of the height of infusion bags on roller pump controlled output volume

139

*A. J. Bijvoet, P. Mistiaen**Leiden University Medical Center, Leiden, The Netherlands.*

Introduction: Adequate control over fluid in- and output during dialysis is of great importance. Many dialysis machines use roller pumps to add additional fluid during haemodiafiltration-therapy. The necessary fluid is set in litres per hour and this is "translated" by the machine in x rotations per minute. However, many machines do no control for actual fluid output. Moreover it was observed in our unit that nurses tend to hang the infusion bags on different heights according to their own height. We wondered if the height of the infusion bags influences the output of a roller pump, as is shown earlier with syringe pumps (Lonnqvist & Lofqvist, 1997). Research question: Does the output volume delivered by a roller pump driven machine differ by the height of the infusion bag?

Method: Under laboratory circumstances 2 settings were installed: one with the outlet of the 4.5l infusion bag on 1 m height above the inlet of the roller pump and one with the outlet on 0.5 m above. In all settings we made use of the Monitral-S/BSM22, set at a flow rate of 2l/h. Output fluid was collected in a bag, hung up with the inlet 1 m above the inlet of the roller pump, to simulate contra-pressure in the veins. The machine ran for half an hour and the output was than weighted with a high precision weighing scale. Each setting was repeated 10 times. Infusion lines were renewed after 5 measurements.

Results: The output volume with the infusion bag at 0.5 m varied between 965.2–993.6 ml per half an hour, with a mean of 982.64 ml (sd=9.25); output volumes with the bags at 1 m varied between 962.8–1007.8 ml per half an hour (mean=985.56, sd=17.48). The output volumes computed by the machine varied between 1000–1010 ml/0.5 h. T-test analysis for differences in means between the different heights of the infusion bags was not significant ($t=-0.468$, $df=13.67$, $p=0.647$).

Conclusion: The actual output volumes vary across all measurements. However the output volumes with infusion bags at different heights do not differ significantly from each other and are within a clinically acceptable range. On the other hand the lowest output differs by 45 ml from the highest; this means a potential difference of 360 ml over a dialysis time of 4 hours, with an infusion rate of 2l/h. It is recommended that dialysis machines are equipped with an actual output volume control mechanism. Finally, this study gives no contra-indication for an ergonomic and nurse-friendly approach to hang the heavy infusion bags at the height they find comfortable.

Competency based assessment = competent practice

150

*J. Abbott, Al. Hasseldeyc**St. Helier NHS Trust, Surrey, United Kingdom.*

A review of the tools available to train and educate junior and newly appointed nursing staff resulted in the production of a competency based staff nurse development portfolio. It became increasingly apparent during 1999 that the current training programme – 4 individual learning packages – were not fulfilling the educational needs of junior staff. Discussions took place with all grades of clinical staff facilitated by the senior lecturer for the renal course. It was concluded that there would be benefit for staff and the unit if we could produce one document which would show evidence of the following:

1. A unified approach to training and development.
2. Ongoing development of clinical skills.
3. Support for learning contracts for students undertaking the renal course.
4. Partnership between students and mentors.
5. Evidence based practice and reflection.
6. Core skills assessment – this aspect was essential because the current assessment tools only asked learners to demonstrate theoretical knowledge. Practical competence was assumed and not demonstrated.
7. A tool to support recruitment and retention.
8. Partnership between the clinical areas and the education sister in terms of learner development and monitoring progress.
9. A support to the newly implemented documentation and learning environment policy.

This paper discusses the planning, implementation and evaluation that has taken place.

Change for the sake of change or development into the millennium?

149

*E. Burt**Southmead Hospital, Bristol, United Kingdom.*

We are an expanding renal service working towards a national target take-on rate of 110 patients per million head of population. A reduction in the number of nurses coming into the renal service with relevant experience requires managers of wards and units to recognise how they can motivate staff to change and develop within their areas to be able to meet patient care needs. Staff who have put time and experience into a certain area of renal nursing become threatened by the necessity to change established practice.

This paper will aim to look at how a department that plays a central role in the treatment of renal patients did not target both staff and resources at a time when expansion occurred within the service. This resulted in reduced morale and a stagnant working environment. A retrospective look at what had occurred over the previous years has resulted in one ward being forced to look at current practice and plan a strategy for both development and expansion at a time when nurses are stretched to the limit. This will then show how support structures and decision making frameworks have been used as tools to both reduce stress levels and support staff through the change process. It will also look at how the working environment and management style has been used to give a positive direction to staff and allow them to become empowered in both their professional development and involved in unit projects enabling unit progression.

The introduction of clinical supervision within the renal unit

146

L. Denning

Southmead Hospital, Bristol, United Kingdom.

Clinical supervision is "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 clinical situations" (Department of Health 1993). The need to introduce clinical supervision to ensure that patient care is constantly challenged and improved, while also helping individual nurses develop is much discussed within nursing literature. The literature is inclined to discuss the reasons why clinical supervision should be introduced, the methods of introduction and education requirements prior to introduction. Little is written about the effects, as identified by nursing staff, of receiving clinical supervision. Following the introduction of clinical supervision to a group of senior nursing staff within the renal unit a qualitative research study was undertaken. Clinical supervision was provided for a period of 6 months. At the 6 month point semi-structured interviews were conducted to identify what clinical supervision actually meant to nurses receiving it, with a further aim to identify if it had an impact on practice and patient care development. The research findings indicate that clinical supervision has a significant effect on professional and personal self confidence, which in turn has led to the staff involved identifying that they have had a decrease in their stress levels. This presentation will discuss both the method of introduction of clinical supervision into a busy renal unit, and what the staff involved have identified it means to them as individuals and as members of a team.

Estimating safe and appropriate staffing levels for renal care

152

P. Edwards

Southmead Hospital, Bristol, United Kingdom.

A constant question in many renal units is the safe, appropriate and cost-effective estimation of staffing establishments in renal care settings. There is often a perception that staff: patient ratios in chronic haemodialysis units follow fairly well accepted rules. But changing patient profiles – increasing elderly, diabetic and increasing longevity – are challenging those rules. The changing demands of these patients require a greater variety of skills to meet acceptable standards of care. More complex elements are involved in the estimation of appropriate staffing levels and skill mix of staff for in-patient care, training programmes and for patients managed in their own homes. A significant impact on these estimations is the degree to which financial resources can be obtained to enable the identified staffing levels and skill mixes to be funded. A major difficulty in all these calculations is the diversity in the way in which programmes are established and managed. This diversity will be dictated by national health care systems, resource access and allocation, reimbursement policies, private/public service provision. Other influences will be epidemiology, regional concentrations and geographical spread. Finally, strategies to achieve clinical practice standards and current "accepted wisdom" on modality effectiveness may dictate local and national service provision. Despite this apparent inconsistency of approach at the point of contact between nursing staff, multi-disciplinary care staff and patients, many of these diversities will disappear. This paper will offer suggestions for the application of some basic elements to the planning of appropriately skilled staffing levels against a range of service profiles.

Prevalence of early renal disease in a high risk cohort

161

P. A. Ellis, H. S. Cairns

King's College Hospital, London, United Kingdom.

A cross sectional (prevalence) study was undertaken in two inner city general practices to ascertain the amount of known, and previously unknown, renal disease in patients between the ages of 50 and 75 years old who had a history of hypertension and/or diabetes. All patients fitting the inclusion criteria were identified from the practices electronic databases. Most recent serum creatinine was also recorded. The local hospital biochemistry database was searched for serum creatinine of patients who did not have one recorded locally. Any patients still not having a serum creatinine measured in the preceding year were then invited for screening, by the research nurse, either in their general practice surgery or at the hospital. The two practices contained 999 individuals who met the inclusion criteria. Of these 622 had had a serum creatinine measured within a year of the start of the study. Three hundred and sixty seven individuals were invited for screening; 190 were eventually screened. Of the 177 who did not attend for screening 2 had died, 25 declined, the other 150 made no contact with the GP or the researcher. Results of this study demonstrate that 8.4% of patients in the cohort had early renal disease as evidenced by a serum creatinine $>120\mu\text{mol/l}$ (local upper limit of normal). The prevalence in the three groups, i.e: the hypertensives, diabetics and diabetic hypertensives were 6.1%, 12.6% and 16.99% respectively. This study demonstrates the high prevalence of early renal disease in this high-risk population.

Latex allergy; a misjudged problem!

140

S. Tas-de Haas

Albert Schweitzer Ziekenhuis, Dorprecht, The Netherlands.

Latex, or rubber allergies, can lead to severe health problems; in the extreme to shock and even death. Most people come into contact with latex on a daily basis. People who come into contact with latex frequently by virtue of their profession, run the extra risk of developing an allergy to this material. In this way more and more dialysis nurses are getting allergic to latex. An inquiry and literature study show that in the Netherlands dozens of dialysis nurses have already experienced a reaction to this material. This increase is due to the use of rubber gloves for nursing acts. Through contact with latex, the immune system of the latex sensitive dialysis nurse will be irritated little by little, until a hypersensitivity has been caused. There is an alternative to latex in the composition of rubber gloves, however this is more expensive. On the basis of two cases the problems posed and an action plan are being illustrated. In these cases the allergy types III and IV according to Krogh and Maibach will be described. In both situations it concerns a dialysis nurse (among them the author), who sustained complaints after wearing powdered latex gloves. Urticaria and later on exanthema appeared on hands and face, followed by severe itching and cold symptoms. Eventually the hypersensitivity manifests itself in the form of a dispnoea. A severe attack of these allergic complaints is a signal to the management department to take measures, in consultation with the labour committee, to prevent further problems. Conclusion: Latex allergy is a serious problem for dialysis nurses, which is still frequently underestimated. For many nurses in the dialysis department latex allergy complaints are attributed to other causes. Scrupulous research is needed to highlight the extend of the problem at both national and international levels. By sharing research data more information will become available, from which hopefully answers can be found. This would result in protocols, which on one hand would contribute to greater realisation of the problem, and on the other a possible cure.

Is heparin necessary to maintain the patency of haemodialysis catheters? A preliminary report of a randomised crossover trial

133

J. A. Hurst
School of Nursing, City University, London, United Kingdom.

Heparin is well known to have the side effects of prolonged bleeding, hair loss and bleeding gums, and in some cases, an allergic reaction. It is known to react to certain drugs (Turco 1976), and in the longer term is associated with osteoporosis, hair loss and clotting abnormalities (Yamamoto 1996, Roe 1998). For the patient maintained on haemodialysis other well documented long-term complications associated with renal failure and haemodialysis may well be exacerbated by the constant use of heparin required in the process of dialysis (Leanza 1989, Norton 1992). The author knows of no evidence-based literature to support the present use of heparin as the catheter locking solution.

The major impacts of this study for evidenced-based clinical practice are:

- Should saline be recommended as the preferred locking solution then there will be several economic benefits. The time it would take to wash back and finish a dialysis session would be reduced. The amount of disposable equipment needed would be reduced, and the cost of supplying the heparin would be completely cut.
- Saline is safer to use in the clinical area.
- By reducing the amount of handling of the catheter when saline is used, the risk of infection must be reduced. If infection rates are reduced then hospital admissions to treat such infection will be reduced. Feldman (1996) reports that, in the USA, this would amount to a saving of \$ 1 bn per year.

Twenty-three patients were identified to start this study. Two patients have completed the study in full and have not demonstrated any changes in catheter patency and performance in either the heparin or saline limbs of the study. Patients who have withdrawn from the study have all done so with functioning catheters.

This research hopes to explore more fully whether heparin is necessary, whether a traditional practice is being upheld, whether the method of inserting the locking solution is more significant, or whether other effects associated with the process of ESRF and dialysis are influential in maintaining catheter patency.

Physical activity in elderly dialysis people – intention, practice, and outcome

160

B. Kuleisa, K. Hoeke, K. Mienert, R. Krause
KFH-Dialysis Center Moabit, Berlin, Germany.

Objective: Muscle weakness, loss of strength, and osteodystrophy following chronic renal failure (CRF) leads to inactivity especially in the elderly patients. Additional due to the hemodialysis (HD) treatment 4 – 6 weeks per year the patients were immobilised.

Aim: Therefore were started an individualised exercise program during HD, two times a week with a sports-therapist is coming into the centre.

Patients & Design: In our dialysis centre the mean age of the patients is 63.5 years), and 60% are between 60 – 80 years old. 30% of them needs home-care for daily activities, housework, or dressing, and 50% are unable to come to the dialysis centre without ambulance service.

The main goals are the improvement of flexibility, co-ordination, dynamic and static strength (video available), because most of them had done no physical activity, walking outside the floor, or gymnastic exercises for many years (or decades).

Results: The intensity and the frequency of the major motor demands are documented weekly, every 3 months standardised sport motoric tests are performed. Our sport-therapy programme is included in an overall conception of quality management in dialysis. Due to it, the routine laboratory parameters as well as the KDQOL-SF-36 questionnaire is documented quarterly. Most interest is given for the improvement in every-days-activity, self-care competition, and transportation.

Conclusion: The challenge of physical activity during dialysis must be more than an occupational therapy. Physical activity and sports therapy as a non-drug treatment can improve quality of life and personal self-consciousness as well as treat typical co-morbidities, and it can counteract intradialytic complications (e.g. cramps or hypotension). Our patients represent the mean age of the population on renal replacement therapy in Germany, and by our experience every patient can participate with his/her individual capacity, and a great personal benefit.

Sub-optimal response to erythropoietin

162

S. Kennington
Hammersmith Hospital NHS Trust, London, United Kingdom.

The importance of erythropoietin in the treatment of anaemia in patients with renal failure is now widely recognised. The European Best Practice Guidelines for the management of Anaemia in patients with Chronic Renal Failure (CRF) states that a target of >85% of the patient population should have a haemoglobin concentration >11g/dl (haematocrit >33%). The aim of the study was to see if our unit met these standards and if not, what could be done to improve our percentage of target haemoglobin's reached. For this study a quantitative approach was adopted. An audit program already in use highlighted that only 73.7% of our patients met the standard. A literature search showed that there are 6 main causes of sub-optimal response to Erythropoietin; iron deficiency, infection and inflammation, secondary hyperparathyroidism, aluminium toxicity, blood loss and haematological disorders. Each patient was monitored over 6 months, their cause of sub-optimal response was investigated and treated appropriately. The results showed that infection/inflammation and iron deficiency were the most common causes of sub-optimal response to Erythropoietin. Each episode of infection and inflammation was highlighted and where possible treated. The Intra-venous iron protocol was reviewed and updated. Teaching sessions were given and staff were fully updated on the importance and administration of Intra-venous iron. It became apparent that more education for staff was required in the treatment of anaemia in patients with Chronic Renal Failure. As a result of this an anaemia work matt was developed to facilitate staff to recognise the different causes of sub-optimal response and what treatment is required, with the emphasis on iron deficiency. The work matt will also be used in our patient teaching program. A cause of sub-optimal response could not be identified in 37% of the patients highlighted by the audit tool. This suggests that further research is required into exploring the process by which patients become non-compliant.

The development of home care teams to improve the quality of predialysis and dialysis care

155

E. Meldrum, H. Chamberlain
Leicester General Hospital NHS Trust, Leicester, United Kingdom.

In the latter part of 1998 a review of the Care Pathway identified that patients came into contact with four different areas within the Renal Directorate. The areas included, the Day Case Unit, Day Training Outpatient Clinic and Renal Community Nursing Team. All of these areas were managed separately within the organisational structure of the Directorate. It was agreed that the care pathway for pre dialysis care was fragmented allowing some patients to 'slip through the net'. Non-English speaking patients did not receive the same quantity or quality of information that would prepare them physically and psychologically for dialysis. Many patients also received conflicting or repeated information from different staff, as there were many individuals within the multidisciplinary team involved within the pre dialysis process.

Following the review it was decided in February 1999 that the Day Case Unit, Day Training Outpatient Clinic and Renal Community Nursing Team needed to come together as the 'Home Care Team' and share existing roles and responsibilities. This created a team approach for holistic nursing care from the pre dialysis phase, commencement of dialysis through to self caring for their dialysis in the community.

Within the Home Care Team there are now four geographically based teams of nurses and renal care assistants. Individual patients are referred to a specific team who are responsible for the total nursing care for the patient from the pre dialysis stage to the commencement of dialysis and discharge into the community. The care may incorporate: pre dialysis assessment, dialysis training, Anaemia co-ordination, home visits, and rotation into the Day Case Unit and Outpatient Clinic.

Because nurses are now working in a variety of different settings and have received an increase in training staff are better able to assess the special needs of our varied community. Consequently, there has been an increase in the utilisation of aids to independent living, information days and informed decision making and home visits to patients in community all increasing the equality of care.

There has been an increase in the cultural awareness of staff which has broken down previous cultural barriers. The team approach to patient care has enabled the Directorate to provide continuity of care from the initial point of referral until death or transplantation. The patient knows their team of nurses and can identify where to get help.

Patient education and knowledge after 6 months of chronic dialysis treatment

134

B. G. Nijman¹, I. Husmann², J. C. Korevaar², M. A. M. Jansen¹, F. W. Dekker², E. W. Boeschoten¹, R. T. Krediet¹ for the Necosad-Study Group
Depts. Of Nephrology¹ and Clinical Epidemiology & Biostatistics², Academic Medical Center, Amsterdam, The Netherlands.

Patients with end-stage renal disease (ESRD) who are about to start with chronic dialysis treatment are faced with complicated and a demanding treatment regimen. This complexity necessitates good patient education. The aim of this study is to make an inventory of the patient education and the dialysis related knowledge of patients after 6-months of chronic dialysis treatment.

ESRD patients in 26 different centres; receiving 6-months chronic dialysis treatment were consecutively included. The first part of the questionnaire asks about patient education. The second part contained 11 dialysis related knowledge questions.

136 Haemodialysis (HD) patients and 79 peritoneal dialysis (PD) patients completed the questionnaire. Mean age was 60 years, 60% was male, 40% had an education level of intermediate or higher. PD-patients had significantly more often received predialysis education (96%) than HD-patients (74%). 73% of the patients obtained the greater part of the education in the last 3 months before commencing dialysis. On the average, HD-patients obtained predialysis education on ± 3 different topics, PD-patients on ± 5 topics ($p < 0.05$). Best approachable for answering questions after 6 months of dialysis is the renal nurse. On a 10 point scale, the information obtained by the renal nurse deserved an 8.1, the nephrologist a 7.7. PD-patients had significantly more knowledge after 6-months treatment compared to HD-patients. With a maximum score of 10 PD-patients scored 7.8, HD-patients 6.0. More knowledge was related to being younger, being a male, having no contra-indications for initial modality choice, having a higher educational level, and receiving PD treatment. No relation was observed for the amount of patient education, or when the patient received education, or from whom education was obtained. The number of physical complaints after 6-months dialysis was not related to knowledge as well.

After 6-months of dialysis treatment, most patients were content with the quality of the obtained information. Yet, more information did not increase the knowledge of the patient.

Quality Monitoring of care: Ask it the patient

145

J.-Y. de Vos, L. Leleu, M. Geenens, R. Hombrouckx
Werken Glorieux, Dialysis Unit, Ronse, Belgium.

We are a group of three dialysis centres providing mainly haemodialysis treatments.

In 1998 and 1999 we organised a questionnaire to be filled out by the chronic haemodialysis patients.

A first part is dealing with the general information data on the specific patient.

A second part is dealing with quality assessment data given as experienced by the individual patient. This second part includes a ranking of preference aspects by the patients and which aspects patients want to see improve in future.

As we implemented the EDTNA/ERCA Clinical Standards and Core Curriculum since its release, this monitoring tool, as described in the paper, was developed in order to monitor the effect of implementation.

As a result of this already two years monitoring process of quality of care, we can follow up the care provided by our multidisciplinary team. It has been proven a very useful tool to find out what is to stay as it is and what is to be improved. Simply closing the loop!

The impending kidney transplant crisis for the ageing Asian population in the UK

127

G. Randhawa
University of Luton, Luton, United Kingdom.

Kidney transplantation offers the opportunity of an improved quality of life for those patients suffering from renal failure. Unfortunately, this treatment is not available to all people as this is influenced by the increasing demand for a limited supply of organs. This situation is particularly alarming for the UK's Asian population with their higher susceptibility to end-stage renal failure which has resulted in a greater demand for transplants. Consequently, the proportion of Asians on transplant waiting lists is growing rapidly. Coupled with this are problems of cross-racial tissue type matching which has led to longer waiting times for a transplant. The situation is clear, there is an urgent need to address the number of Asians requiring a kidney transplant otherwise the human and economic costs will be very severe as the relatively young Asian population ages. In the short term there needs to be a greater number of donors coming forward from the Asian communities to increase the pool of suitable organs. In the long term, there needs to be greater attention on preventive strategies to reduce the number of Asians requiring renal replacement therapy. This paper draws on research to highlight possible ways forward.

Evidence based practice – its progress!

153

H. Wilkinson, P. Ormandy, H. Robinson, J. Macdonald
Renal Unit Hope Hospital, Salford Royal Hospitals NHS Trust, United Kingdom.

The project to introduce Evidence Based Nursing Practice across the Nephrology Service in this large teaching hospital began in 1997. A two staged action plan was utilised that reflected a model developed by Burrows & McLeish (1995).

In stage one, nurses gather evidence, review literature then compile referenced documents which validate practice. An experienced nurse (a buddy) is allocated to each nurse to guide, offer advice and facilitate the process. The documents are peer reviewed by five colleagues with amendments performed if necessary, with the aim that the research evidence is implemented into clinical practice. Stage two involves the compilation of systematic reviews to support practice and where research evidence is weak, the development of research studies to validate nursing care.

Despite this clear process the venture has been has been a challenging one for our practice development team. Over the past two and a half years many barriers have had to be overcome, a new nursing culture emerge and ownership of practice adopted in order to facilitate the success we have had.

This presentation will endeavour to illustrate how we as a team have systematically worked through the problems and overcome some of the barriers to Evidence Based Nursing Practice. Determination, dedication and a professional willingness to change has equipped us with the skills and insight to continue to promote Evidence Based Practice in a demanding service. Despite the remaining barriers to Evidence Based Practice the structure and model has proved effective and could be transferable to other areas.

Jack & Oldham (1997) suggest that evidence based practice has much to offer nursing and patients and by striving to achieve its implementation, nurses are helping to ensure that they are delivering the most effective care.

Multidisciplinary team working as an approach to Facilitate seamless Renal Care

144

C. Willis

Birmingham Heartlands Hospital, Birmingham, United Kingdom.

A multidisciplinary team working strategy has been developed within the Renal Directorate to progress the provision of seamless renal care. Three core principles form the basis for the strategy; – shared goals, communication, and the knowledge of skills and resources required to attain the Directorate's business objectives.

The most important factor for successful multidisciplinary team working is shared goals and objectives that encompass all disciplines. These goals are clearly expressed, realistic and accessible to the whole multidisciplinary team. The adoption of six corporate objectives and the inclusion of quality outcomes defined in the British Renal Association Standards shape the annual business plan. These objectives are cascaded at three levels: organisational (Directorate), departmental (team) and individual, and are managed through the appraisal process.

Communication to all staff ensures that everyone understands the current position of the Directorate. The SWOT analysis technique is utilised within each department to assess the current situation and inputs directly into the business planning process. Communication pathways include attendance at weekly multidisciplinary team meeting, open Directorate meetings, multidisciplinary education sessions, a formal communication cascade hierarchy and the posting of all meeting minutes and quality outcome statistics on the shared areas of the renal computer system. The third element is the definition of skills and resources required by the Directorate to close the gap between the target and actual situation. Multidisciplinary team working offers a new horizon, providing exciting opportunities to share good practices and innovation across all disciplinary boundaries.

Renal Nutrition

Regular dietary review of haemodialysis patients reduces hyperphosphataemia and calcium phosphate product

114

J. Bartram, C. Ahmed, M. Kelly

Hammersmith Hospital NHS Trust, London, United Kingdom.

Elevated serum phosphate and calcium-phosphate product (iCaxP) has been shown to increase the risk of osteodystrophy, soft tissue calcification and arteriosclerosis. A review of pre-dialysis serum PO_4^{3-} level of all haemodialysis patients (n=164) was undertaken in August 1997.

Method: Patients with elevated pre-dialysis serum phosphate (PO_4^{3-}) (≥ 2.0 mmol/l, Renal Association, April 1995) were highlighted. Parathyroid hormone, adjusted serum calcium and serum bicarbonate levels were also collected to exclude hyperparathyroidism, under dialysis and metabolic acidosis. Forty (24%) patients had elevated $P O_4^{3-}$ review being possible in only 18 of those attending the main hospital or on-site satellite haemodialysis unit. Other patients (control group, n=22) were not reviewed either due to the distance of their satellite unit or due to known access or infection problems. At interview, a questionnaire was used to elucidate compliance and general understanding of both the dietary principles and phosphate binder prescription. A thorough dietary review was undertaken, with additional dietary advice being given where appropriate. To establish the short-term effect of this dietary advice, biochemistry was collected again three months following the dietary review.

Results: A two-tailed t-test to compare the change in PO_4^{3-} between groups was also significant (p=0.03). Both PO_4^{3-} and iCaxP decreased in the advice group, with a mean change from 2.49 ± 0.12 to 1.96 ± 0.16 mmol/l (p<0.01) and 2.99 ± 0.15 to 2.49 ± 0.23 (p<0.02) respectively. Over the same period, there were no significant mean differences in PO_4^{3-} and iCaxP of the control group 2.39 ± 0.11 mmol/l to 2.42 ± 0.13 mmol/l, (p=0.44) and 3.03 ± 0.16 to 2.87 ± 0.16 (p=0.53).

Conclusions: Dietary review appears to produce a short-term lowering in PO_4^{3-} and iCaxP levels. For patients on-site, this may be achieved as part of their annual review. At present, satellite unit patients are reviewed only when the patient is highlighted to the Renal Dietitian. For these, whilst elevated PO_4^{3-} levels and iCaxP continue, the risks of osteodystrophy, soft tissue calcification and arteriosclerosis remain.

Addressing equality through education – a study day

175

A. Case

Department of Nephrology, Leicester General Hospital, Leicester, United Kingdom.

In our Renal Unit, which has a large percentage of Asian patients, it was felt that the standards of service to this group were not reaching those of their non-Asian counterparts. This was not only because of the obvious language barriers that can exist, but also due to a lack of knowledge of the "Asian diet".

To help address this problem a closer look was taken at our Asian population. Audits of supplement usage and biochemistry were undertaken and time was spent with some of the patients in their homes learning about their diets.

In November 1998 we organised a National Study Day for dietitians, nurses and other health care professionals and discussed the nutritional problems encountered, details of the data we had collected and how to more effectively advise Asian patients on their diets. In addition medical and cultural aspects of the community were discussed.

I would like to present a synopsis of the Study Day, the results of the audits and assessments undertaken and how our clinical practice has been affected.

The development of a computerised nutritional screening tool for renal outpatients

111

T. Gower, M. Breal, J. Prickett
Southmead Hospital, Bristol, United Kingdom.

Purpose: Identify patients with abnormal biochemistry and those at risk of malnutrition according to departmental standards.
Methods: Continuous Ambulatory Peritoneal Dialysis (CAPD), Haemodialysis (HD), Transplant (Tx) and Nephrology (Ne) patients were screened monthly. Abnormal results were defined as Potassium >6mmol/l in CAPD and HD, >5.5mmol/l in Ne and Tx. Phosphate >2mmol/l in CAPD and HD patients, and >1.75mmol/l in Ne. HbA1c >9 in CAPD, HbA1c >8 in HD, HbA1c >7 in Tx and Ne. Fluid gains >3kg on 4 or more occasions per month in HD patients. Malnutrition was defined 2 or more of Urea <20mmol/l HD and <15mmol/l CAPD. Potassium <3.3mmol/l, Phosphate <75mmol/l, 10% weight loss or more, NPCR <1.2, KT/V <1.9 CAPD and <1.2 in HD patients.
Results: 80% of CAPD patients had NPCR < 1.2. The screening tool identified 24% of HD and 80% of CAPD patients at risk of malnutrition. Standardised dietetic assessments indicated 45% of HD and 74% of CAPD patients were at risk. 16% of HD patients had high fluid gains and 50% dialysed at the same unit.
92% of Ne and Tx patients had HbA1c >7, 24% of HD patients had HbA1c >8 and 48% of CAPD patients had HbA1c >9. 20% of CAPD patients had hyperkalaemia and 16% had hyphosphataemia vs 11% of HD patients.
Conclusion: The screening tool can identify CAPD patients at risk of malnutrition but it cannot identify HD patients at risk. It has helped determine dietetic input for each patient group and improved time management by reducing the time taken to identify patients at risk. A database will monitor changes in results pre and post dietetic involvement.

The SGA (subjective global assessment), a method for the nurse team to evaluate the nutritional status of the dialysis patients

110

J. P. Julien
Hôpital St. André Bordeaux, Pessac, France.

Malnutrition in maintenance haemodialysis (HD) patients (prevalence = 20% to 36% French multicentric study, 7123 patients, Xavier Leverve and the group of French Study of Nutrition in Dialysis, 1997) is closely related with morbidity and mortality in this population.
Aim of the study: To evaluate feasibility, performance and information given by SGA (subjective global assessment), a semi-quantitative method of nutritional evaluation (based on a medical questionnaire and a simple clinical examination) by practicing it, by a group of 12 nurses.
Method: In March 1999, a feasibility study was organised in real conditions (evaluation of 9 patients during their HD session). Since July 1999, a nutritional evaluation of all the patients meeting the required parameters (duration of HD >6 months, day sessions ...) has been set up every 4 months.
Results: In March 1999, the preliminary study demonstrated an average learning time per SGA of 15'. In July 1999, 32 patients were evaluated, albuminemia, ($\mu\text{mol/l}$) and pre-albuminemia (g/l) were analysed according to the SGA classification (A = good nutrition, B = light to moderate malnutrition, C = severe malnutrition). The albuminemia, and the pre-albuminemia of patients A (respectively 541 ± 45 and 0.37 ± 0.10) were higher than those of the patients B (482 ± 41 and 0.31 ± 0.01), and those of the patients C (381 ± 54 and 0.19 ± 0.1), by variance analysis ($p < 0.0001$). The information drawn from the SGA reveal a severe malnutrition, a light to moderate malnutrition, and a good nutrition in respectively 13%, 63% and 25% of the patients, and a noticeable muscular atrophy (moderate to severe) in 43% of cases. Anorexia, and major gastro-intestinal symptoms (nausea, vomiting, and diarrhoeas) are found in 14% of cases.
Conclusion: Beside traditional methods of screening and of evaluation of malnutrition in HD patients, the use of SGA by a nurse team may bring useful information on nutritional status of the patients, especially in "light" structures lacking of laboratory, dietetic department or permanent presence of doctors.

The nutritional intake of CAPD patients and the influence of subjective factors

116

H. S. Jackson
King's College Hospital, London, United Kingdom.

Many patients on peritoneal dialysis fail to meet recommended intakes for energy and protein. This may be due to several factors. This study aimed to determine the subjective experience of appetite, intake and nausea and the relationship with objective nutritional intake in CAPD patients.
The dietary intakes of sixteen CAPD patients, age range 33–62 years, were assessed using weighed food diaries over a minimum of three days. A three item linear analogue self assessment Attitude to Eating (ATE) questionnaire was used to assess subjective appetite, satisfaction with food intake and experience of nausea on a 10 cm scale, 10 being the optimum score. Mean (SD) dietary protein intake was 72 (17) g/day or 1.05 (0.24) g/kg IBW. Mean energy intake was 1793 (362) kcal/day or 26.5 (5.9) kcal/kg IBW. The mean (range) score was 6 (1–9) for appetite, 8 (3–10) for intake and 7 (1–10) for nausea. There was a significant positive association between appetite and nausea scores but satisfaction with intake was not related to either score. There was no association between any of the three ATE items and energy (kcal/kg IBW) and protein intake (g/kg/IBW). However, when expressed as total kcals or grams per day there was a significant positive association between appetite and both energy and protein intake. The lack of any relationship of satisfaction with intake with appetite supports the need to distinguish between them during clinical assessments. Other factors influencing food intake included lack of money, lack of time and apathy. Patients may benefit from more dietetic education to encourage a more realistic satisfaction with their food intake and improve motivation to achieve their requirements.

Nutritional care of renal transplant recipients with hyperlipemia

113

O. Mengerová, V. Teplan, P. Bubeníček
Institute for Clinical and Experimental Medicine, Prague, Czech Republic.

Hyperlipidemia (HLP) after renal transplantation (RTx) is one of the most common long-term metabolic complications. A key role in its development may be played, apart from immunosuppressive agents, by altered dietary habits in patients with good graft function. The long-term survival of patients after RTx and the increase in their mean age post-RTx entail an increase in the long-term post-RTx risk. A prospective metabolic study was designed to follow up 420 renal graft recipients for a period of 24 months. The patients were divided into four groups by age and sex. All patients had clinical, laboratory and dietetic examinations at three-month intervals. At initial nutritional intervention, the patients in both groups were explained the reason for the indicated dietary regimen. The dietary program took account also of other reasons for adjustment. Each patient was given dietary instructions, a menu for guidance, and tables with the nutritional values of basic foods. If HLP persisted, patients again received individualised interventions on each follow-up visit (at a 3-month interval). During follow-up, the values of the lipid spectrum parameters increased. These changes were particularly marked in women >60 years of age, also shown to have the highest increase in body mass index (BMI). However, long-term individualised dietetic-pharmacological intervention is an absolute necessity in all patients.

Basic characteristics and data of patients before renal transplantation

Group	N	Age (yrs)	Sex	Cholesterol (mmol/L)	Triglycerides (mmol/L)	BMI kg/m ²
I	174	≤60	Male	5.37 ± 1.57	2.80 ± 1.85	23.7 ± 1.6
II	42	>60	Male	5.05 ± 2.61	2.15 ± 1.15	25.0 ± 1.8
III	168	≤60	Female	5.85 ± 1.62	2.64 ± 1.95	26.1 ± 2.2
IV	36	>60	Female	6.52 ± 2.0	2.35 ± 2.10	26.5 ± 2.3

Nutrition in renal disease: the nurses role

109

E. P. Murray
Royal Free Hospital, London, United Kingdom.

Malnutrition in chronic haemodialysis patients has been widely documented by many authors (Milano et al. 1998 and Leung and Dwyer 1998). Malnutrition in this patient group is often associated with increased morbidity and mortality and decreased quality of life. There are many contributing factors to this, including inadequate dialysis, nutrient losses during dialysis, dietary restrictions, medications and socio-economic factors. It is the renal nurses role to identify patients at risk from malnutrition, and make appropriate referral to the dietician. Intradialytic Parenteral Nutrition (IDPN) is one proposed treatment for malnutrition, however before commencing patients on IDPN it is essential that all other nutrition intervention strategies should be exhausted. For IDPN to be successful, patients must be well dialysed and have a minimum of 4 hours dialysis 3 times a week. These patients will require additional monitoring by nurses prior to commencing dialysis, during treatment and after completion. To achieve a successful outcome, a multidisciplinary approach is required, with all disciplines sharing information to improve patient care. A prospective study of patient outcome following the use of IDPN is proposed for the future in our renal unit.

LEUNG J. and J. DWYER. 1998. Renal DETERMINE Nutrition Screening Tools for the identification and Treatment of Malnutrition. *Journal of Renal Nutrition*. Vol 8, No 2 (April) pg 95-103.

MILANO M.C., A.M. CUSUMANO, E.T. NAVARRO and M. TURIN. 1998. Energy Supplementation in Chronic Haemodialysis Patients with Moderate and Severe Malnutrition. *Journal of Renal Nutrition*, Vol 8, No 4 (October), pg 212-217.

Gastrostomy feeding in adults receiving peritoneal dialysis (CAPD)

176

N. Ruddock
Department of Nephrology, Leicester General Hospital, Leicester, United Kingdom.

Feeding via a gastrostomy tube in patients maintained on peritoneal dialysis (PD), although routine procedure in some paediatric units, has been viewed by some as a 'contra-indication' in adults due to the risk of leakage and peritonitis. Some adult units have tried this procedure with varying results.

To try and establish if there are any factors associated with success of this technique, a questionnaire was sent to all Renal Dietitians working in the UK.

15 CAPD patients had been fed using a gastrostomy tube. 13/15 were on CAPD at the time of gastrostomy placement. 7/13 were fed successfully (Group 1) and 6/13 were unsuccessful (Group 2).

A majority of Group 1 patients observed improvements in weight, serum albumin and oral intake.

Although strong conclusions cannot be drawn due to the low number of patients studied, the results suggest that to optimise chances of success, patients should be rested from their CAPD and gastrostomy feeding should be considered before patients become grossly malnourished.

Complications of gastrostomy feeding with PD were seen in both groups but were far more frequent and persistent in Group 2 leading to discontinuation of either the gastrostomy feeding, the CAPD, or both.

The findings from this study show that gastrostomy feeding in some adult CAPD patients can be successful.

The role of the dietitian in supporting patients on a dialysis diet – a qualitative exploration of patients' experiences

108

K. Sussmann
North Bristol NHS Trust, Taunton Dialysis Centre, TauntonTA1 2UA, United Kingdom.

Whilst developments in medical technology, pharmacology and nutritional science continue to improve treatment possibilities for patients with renal failure, the level of compliance with medical and dietetic advice remains poor. Previous research into compliance with treatment in chronic illness has recommended an improved understanding of what is involved in living with chronic illness, in order to tailor treatment more appropriately to individual needs. This qualitative study set out to examine the experiences and difficulties of patients on haemodialysis following dietary restrictions, and to ascertain how the dietitian can most effectively support patients in adapting to dietary change. Eight patients with chronic renal failure on haemodialysis were interviewed. Following a semi-structured format, participants were asked to describe their experiences of illness and its treatment, their reactions to dietary restriction, factors which helped them cope with the diet, and how they perceived the role of the dietitian. The interviews were recorded, transcribed, and thematic analysis was carried out. Findings showed varied responses to the onset of illness, commencement of dialysis and the imposition of dietary restrictions. These ranged from gratitude for treatment and a wish to help oneself, to a loss of personal identity and a feeling of being blamed by health professionals. Hope, support from others, individual activity and personal responsibility on the part of patients promoted a more positive coping response. Recommendations from this research propose ways in which the dietitian can encourage these qualities when advising patients, and how they can give information in a positive, sensitive and supportive way.

How to start up the on-line therapy

194

S. Jeuken-Mertens

St. Maartens Gasthuis, Venlo, The Netherlands.

On October 18, 1999 we started on-line HDF/HF in our dialysis-centre. This centre is located in a general hospital. In the beginning we treated four patients with this therapy.

Online HDF/HF is a continuous production of substitution fluid made of treated water and various concentrates.

The primary aim of HDF/HF on-line therapy is to enable a quality improvement of life for the dialysis patient. Because this HDF/HF on-line therapy matches the regular kidney function best.

To realise this aim we first created a strong support for this therapy by setting up a multidisciplinary project team.

There's not much written in literature about how to start the on-line therapy. So we developed the following conditions along with our own project plan.

Methods and means:

1. Analysis of current guidelines (guidelines of European Pharmacopoeia and of our government: bacteriology: < 100 CFU/ml, endotoxin: < 0,25 EU/ml.)
2. Selection of new equipment (online machine, reversed osmosis unit, septron, pvdf-pipelines, ozon disinfection, pex ringpipeline)
3. Development of protocols
4. Development of methods of water sampling
5. Development of training programs

Process description:

The dialysis nurses played a key role especially in the development of comprehensive working instructions concerning all activities to be carried out, the execution of HDF/HF on-line process and the sampling of water and on-line monitors.

Before using the new reversed osmosis unit samples showed over 3000 CFU/ml.

By introducing new technology which cleans the pipelines and hoses ozon, a critical study of the sampling methods and the co-operation with multiple disciplines a significant reduction to 1-10 CFU/ml has been reached.

We also took samples of the online machine: the samples of the substitution fluid outlet and those taken after the first ultrafilter showed 0 CFU/ml. All the endotoxin samples of the substitution fluid were negative.

During multidisciplinary meetings sampling methodologies have been evaluated.

Analysis of gathered data showed existing problems.

This pilot study learned that co-operation and a strict working discipline are necessary. This can only be reached by educating integrated theory and practise.

Results:

Only by writing detailed working instructions of all on-line activities and water-sampling methods, a solid education and training of nurses in particular, we have achieved a secure launch of the HDF/HF on-line therapy in our hospital.

Efficiency of dialysis heat recovery

107

H. Marzougui, J.-Y. de Vos, R. Hombrouckx, D. de Wachter
University of Gent, Ronse, Belgium.

We have evaluated four heat exchangers (Bellco Multimat, Fresenius, Cobe, Bellco Formula) in a modern dialysis machine (Bellco Sorin Multimat[®]) for their efficiency (η) and cost saving. Efficiency is defined as the ratio between the cold (intake) water temperature difference between inlet and outlet over the temperature difference between both inlets of the heat exchanger.

All tests are performed without a dialysed patient since heat losses in the dialyser are negligible (less than 3% difference in our tests). Cost savings are expressed as heat power, which may be multiplied by the price per power of electricity and the duty time to obtain monetary units. All heat exchangers are tested with a mean rate flow of 500 ml/min both with concurrent as countercurrent flow. Mean temperatures at the four heat exchanger connections are processed by a computer controlled measurement system.

The Multimat heat exchanger efficiency increases significantly (+20%) when the hot spent dialysate runs through the internal vs. external circuit ($\eta=47\%$ vs. 37%). The Cobe heat exchanger showed a great increase in efficiency for countercurrent flow (+40%: $\eta=41\%$ vs. 29%). The Fresenius heat exchanger gave always an efficiency of 36%. The Formula heat exchanger is optimised for heat sterilisation and shows the best efficiency: 72% during simulated dialysis and 76% during sterilisation. Typical cost savings of these devices range from 0.65 (Cobe) to 3.5 kWh (Formula), which in our country translate to about 60 to 130E per patient-year. Extra cost savings, not included in these figures, are obtained at higher dialysate flow rates and by the decreased warm-up cycle of the machine. For newer machines like the Formula heat sterilisation with heat exchanger presents additional cost savings.

Heat exchangers present an inexpensive means to reduce costs of the dialysis undertaking. It is important to connect the devices appropriately to obtain maximal efficiency.

Survey of the microbiological quality of the dialysis water: the experience of our dialysis unit

016

S. Pansini, R. Degeatano, D. Boccassini, E. Turi, N. de Vivo
Nephrology and Dialysis Unit – Molfetta's Hospital – AUSL BA/2, Molfetta, Italy.

Haemodialysis (HD) patients are exposed to nearly 400 litres of dialysis water weekly. The bacterial contamination of treated water and dialysate may induce acute pyrogenic reactions or chronic damage for citochines' activation.

The aim of this study is been to investigate the microbiological quality of dialysis water and dialysate of our monitors with bacterial culture of water samples at 37° C after 24 and 72 hours and with the determination of the endotoxin's amount (endotoxin units, EU). The number of bacteria was measured as colony forming units (CFU) (normal value for water and dialysate, respectively <100 and <50 CFU/ml), while EU were measured with limulus amoebocyte lysate (LAL) assay (normal value for water and dialysate, respectively < 0.25 and 0.05 EU/ml).

In our centre there are 16 monitors (6 monitors use sterile dialysate fluid and 10 monitors use non sterile dialysate fluid). Chemical disinfectants (chlorine and paracetic acid) combined with heat treatment were utilised for the disinfection procedures. Water samples were taken with sterile procedure every three months. The table reports the microbiological parameters (the values are expressed as mean \pm SD).

	CFU/ml	LAL EU/ml
DIALYSATE-Monitors with sterile bag	1.46 \pm 0.94	0.08 \pm 0.05 *
DIALYSATE-Monitors with non sterile bag	4.76 \pm 7.53	0.45 \pm 0.42 *
WATER	2	0.14

p < 0.05 EU non sterile vs sterile bag

No bacteria was found in the raw water, after ion exchange, reverse osmosis and on the dialysis water ring; EU were lower than the limit value of 0.25 EU/ml fixed by the European Pharmacopoeia.

The CFU of dialysate taken from monitors with sterile bag are lower than the other monitors without statistical significance; nevertheless the EU of dialysate of same monitors are lower with statistical relevance (p < 0.05 T Student Test).

A frequent examination of CFU and EU is essential to reduce the potential risks due to water contamination, but the goal of the future dialytic technique will be a "sterile dialysate".

Ultraviolet irradiation: a cost-effective and safe tool to keep Reverse Osmosis water of excellent bacterial quality!

102

A. Stragier, D. Wenderickx
Cliniques Universitaires St. Luc, Nephrology Unit, Brussels, Belgium.

It is troublesome to keep, 365 days a year, Reverse Osmosis (RO) water of excellent bacterial quality (<1 cfu/ml) down to the point of use. In this paper we document and discuss the role of Ultraviolet (UV) irradiation in achieving this goal.

In our unit, we possess of a very complex RO water distribution system, starting with a 500 litres stainless steel tank (sufficient for 30 minutes dialysis for the whole unit in case of water supply or production failure). As this tank entails, due to stagnation, a significant risk to promote bacterial growth, an UV lamp was placed in 1993 on the initial RO water distribution departure line. Because this distribution line splits up in 5 independent circuits, another characteristic favouring bacterial growth, we added in May 1999 a second UV lamp on the central return line to the tank. Cultures from the water distribution return loop are withdrawn on Monday morning (except just after disinfection of the loop). Obviously, this second UV lamp is switched off for a few minutes before a culture sample is taken. Between January and May '99, before addition of the second UV lamp, all cfu results were <1/ml at the second week and averaged 8.4 (range 2–20) at the third week after disinfection of the loop. These results were in keeping with those obtained in 1997 and 1998 (with each year a moderate worsening in the summer time). Thus, disinfection of the whole distribution circuit was required every 3 weeks to keep water quality satisfactory. Between May and November '99, all cfu results remained <1/ml, despite the reduced rhythm of general disinfection (up to 5 weeks) and the deleterious influence of the hot season, promoting bacterial growth. The difference in the percentage of excellent (<1 cfu/ml) results between the third weeks of both periods is significant ($p < 0.01$ by Fisher test).

In discussion we will further document that, due to the high bacterial quality of our RO water, UV irradiation does not entail any significant endotoxin generation. As the half life of the ozone produced by UV irradiation (wavelength 254 nm) is 10^{-6} sec, the method is safe (no expected delivery of free radicals to the patients). And finally, this technique is cost-effective and its maintenance is minimal (weekly quick check for adequate function). Conclusion: Our experience demonstrates that UV irradiation is a safe, cost-effective and practical tool to prevent bacterial growth in a Reverse Osmosis water distribution circuit, keeping it of optimal bacterial quality.

Self monitoring microbiological levels in dialysis water

106

H. Traeger
Wilhelm Werner GmbH, Leverkusen, Germany.

In general microbiological monitoring of dialysis water is not done by the centre itself. The method of using special laboratories for this job will not be changed.

Older dialysis centres which are not equipped with state of the art sanitisation systems for the di-water pipeline can have microbiological contaminations between the normally performed control one time per month.

The abstract describes a very simple test to determine bacteria with nearly the same results as stated out by the standard test method (TGEA culture media 7 days 17–23 °C). This new, ready to use culture medium strip can be handled by nurses or the dialysis technicians.

The abstract also shows a comparison between this new method and the established standard culture media test for aerobic bacteria.

Transplantation

Post-transplant diabetes mellitus in renal allograft recipients

065

M. Čalčič, E. Jovanovič, N. Strajnar
Transplant Centre Clinical Medical Centre, Ljubljana, Slovenia.

The incidence of post-transplant diabetes mellitus, has been investigated in 351 renal transplant recipients, 227 were cadaveric, 124 living related, average age of our patients was 47.4 years. Thirty-six (10.2%) patients (twenty-three men and thirteen women), developed post-transplant diabetes mellitus. Eighteen (5.1%) required drug therapy, 9 insulin, and 9 needed oral hyperglycemic drugs (gliquidon), and 18 patients needed only carbohydrate-restricted diet. Twenty-nine of 36 became hyperglycemic within 3 months after transplantation. Post-transplant diabetes mellitus occurred in 31 patients on cyclosporine and prednisolone therapy, 4 patients received (triple therapy) cyclosporine, azathioprine and prednisolone, two patients received azathioprine and prednisolone therapy. Two patients (5.5%) showed spontaneous resolution of hyperglycemia, within 8 months after onset of post-transplant diabetes mellitus. All patients received similar doses of prednisolone during the initial two months after transplantation, and their mean cyclosporine blood levels at three months were not significantly different. The patients with post-transplant diabetes mellitus showed symptoms of polyuria, polydipsia and emaciation (two patients), diabetic ketoacidosis (two patients), and asymptomatic hyperglycemia was detected by routine screening in most of our patients. Average creatinine values accompanying the onset of post-transplant diabetes mellitus in our transplanted patients were 140 $\mu\text{mol/L}$, but by now they rose to the level of 151 $\mu\text{mol/L}$. Close and regular blood sugar monitoring is thus recommended in post-transplant patients especially those on triple drug immunosuppression.

Counselling on a living donor programme: Ethical dilemmas within a medical model of care and informed consent framework

189

C. Eggeling
Renal Unit St. Helier Hospital, Surrey, United Kingdom.

In addition to satisfying the legal requirement of living donation and showing awareness of cultural and religious sensibilities, there are ethical and moral issues relating to living donation which should be considered in order to provide further safeguards within the Living Donor Programme. The ethical basis of donation is consent. Consent is based upon information, adequately considered and understood. It must be both unbought and unforced. The quality of this consent must be of professional concern, even to the extent of dissuading a would-be donor blinded by zeal and unable to fully consider the implications and consequences of donation on himself or his dependants.

Clinical advantages are claimed for live donation in terms of longer graft survival time, whereas there is clinical disadvantage in risk to the donor during the operation and very rarely in the longer term. The ethics of altruism which enable individuals to accept such risks impose a duty on medical advisers to ensure potential donors appreciate what such risks are and accept them willingly.

In many related donor transplants – as from parent to child – such willing acceptance is seldom in doubt. Some related donors, however, may profess and indeed believe themselves to be willing when they may not be. Sibling donors are vulnerable to strong family pressure. The risk of emotional coercion is highest in cultures which emphasise family solidarity and build obligations upon it – some with strong religious sanctions. Young eligible donors may have potential responsibilities such as spouse or parent, perhaps, to set against the putative claims of a sibling threatened with organ failure. To decline to donate may provoke family hostility and division and in turn generate feelings of guilt.

This presentation will look ethical dilemmas a counsellor has experienced whilst involved with a Living Donor Programme and the difficulties which were encountered trying to implement a holistic model of care within the medical framework of informed consent.

Self administration of intravenous ganciclovir for treatment of cytomegalovirus

060

*E. Glyn
University Hospital of Wales, Cardiff, United Kingdom.*

The aim of the study was to evaluate the quality of the self administration of ganciclovir programme for the treatment of cytomegalovirus infection post kidney transplant. The programme commenced in December 1997 in response to a patient request and was developed and implemented by the Transplant Nurse Specialist and Renal Pharmacist. The programme includes structured education verbal, written and visual, self and nurse evaluation and arranged local contacts. Patient selection is by both nursing and medical staff. To date 12 patients have undertaken the self administration programme, and there was an 80% response rate to the survey. The benefits to the patients of the programme include: being in their home environment, not being in hospital, locus of control, the ability to carry out other activities at home. Acknowledged disadvantages included problems with intravenous access and anxiety regarding the drug itself. From a management perspective, the overwhelming advantage is the reduction in bed days – over 200, which has an impact on the ward and financial benefits. However, disadvantages included a lack of documented evidence to support the initiative and initially increased pressure on both ward nurses and renal pharmacist. Nonetheless, the advantages out weigh the acknowledged disadvantages, from both a patient and management perspective. Furthermore it has afforded the opportunity to explore alternative methods for treating the renal transplant patient cohort, who often live many miles away form the nearest unit, and has allowed for this programme to become part of the transplant nurse specialist role.

Assessment of potential living kidney donors

061

*K. Hamilton, C. Dudley, S. Harper, P. Mathieson, T. Feest, C. Tomson, P. Lear, P. Edwards
Southmead Hospital, Bristol, United Kingdom.*

Since 1995 we have had a policy of actively encouraging live kidney trans plantation together with a strict protocol for assessment of potential donors. We have reviewed 148 potential donors all of whom had indicated willingness to be considered but only 32 (22%) of these cases proceeded to donor nephrectomy.

Methods: A retrospective review of medical notes and tissue-typing records was performed in order to confirm these numbers, the purpose being to establish the exact number of potential donors and to what extent they had been investigated together with the cost and manpower implications.

Findings: After exclusion due to ABO incompatibility and other reasons including initial positive crossmatching, poor HLA match, donor withdrawal, other donor proven to be more suitable and others, 60 (40%) potential donors were medically assessed. During this medical work-up period a further 28 (19%) were excluded for a variety of reasons including potential recipients receiving cadaveric transplants during the work-up period, further positive crossmatching and renal disease proven by biopsy.

Conclusion: Nearly half of all potential blood group compatible living kidney donors did not progress to organ donation after medical assessment with a proportion having previously unsuspected renal disease. Careful assessment of potential donors is crucial but has significant manpower and financial implications and recommendations:

1. Flow cytometry crossmatching should be performed immediately after blood group compatibility is established
2. If the initial donor assessment is satisfactory removal of the recipient from the cadaveric waiting list should be considered
3. Extra resources should be made available if living kidney donation is to increase in the UK.

Reaching out to Asia for living kidney donors

183

*N. Jain, A. R. Ready
University Hospital, NHS Trust, Birmingham, United Kingdom.*

The United Kingdom's Asian population, originating from the Indian sub-continent (ISC), have a 2–4 fold increased prevalence of ESRD. For example, they constitute 14% of the population of the West Midlands region, but almost 30% of the transplant waiting list there. It had been estimated that this figure would rise to 49% by 2000.

The UK's first Asian Transplant Coordinator was appointed to specifically address several concerns, including expanding the LD programme. All patient's on the waiting list, and others (n=148) were seen via home visits, or Co-ordinator-led clinics to re-visit transplantation issues and explore the LD options in one of four languages; open days, community education and media initiatives were sought.

Another potential source of LD's identified were relatives from the ISC. Funding from the NHS, and a protocol was negotiated and established. This was seen as highly cost-effective, given the dialysis costs per patient per annum is £50,000. Audit and evaluation of the entire programme is on-going, given it's infancy. The unit's first such overseas live donor transplant has taken place, with 14 in the system; a further 9 were found to be unsuitable and the recipient's of 3 had cadaveric transplants whilst these donors were being investigated. Out of the total number of patients who expressed an interest in LD, 34.3% have expressed the overseas option; 33.3% of these have considered second degree relatives. Legal, ethical and educational & counselling aspects have been highlighted.

This appears to be an attractive and viable solution. However, the team need to ensure careful follow up, and guard against abuse of the system: collaboration with Asian units is being negotiated.

81 years young – old enough for a transplant?

050

*N. Jenkins, N. Godigamuwe
St. Peters Renal Unit, Middlesex Hospital, London, United Kingdom.*

The increasing shortage of cadaveric organs has implications for every patient on dialysis but a more specific impact on the population of elderly patients. The current allocation of organs favours the younger patients in most units in the UK. Strict screening protocols for transplant assessment may exclude many elderly patients with complex co-morbidities, from selection. In some units patients may never be considered as candidates for transplantation if aged over 70 years. However, research shows that elderly patients who are fortunate enough to receive a transplant often perform extremely well.

This paper is a retrospective case study of an 81 year old gentleman, Mr Astaire*, who received a cadaveric transplant from a 79 year old donor in May 1999. The circumstances of his transplantation are rather unusual in that Mr Astaire was not actually registered on the transplant waiting list and had not yet been tissue typed when he received the transplant. This review will explore the unique management of this gentleman and discuss the following issues raised by his case:

- Expanded Criteria Donors
- Individualised transplant assessment
- Immunosuppression in the elderly
- Informed consent

The transplant has so far been successful, at 6 months Mr Astaire has a serum creatinine of 180mmol/L. He lives alone and travels around the UK, actively pursuing his love of ballroom dancing.

We would like to share knowledge and experiences gained in the management of Mr Astaire and hope to demonstrate that age may not be a barrier to transplantation.

* Name has been changed for reasons of confidentiality.

Immunoabsorption in highly sensitised renal transplant recipients

051

*C. Mayer, H. Schableger
Allgemeines Krankenhaus Wien, Austria.*

The number of renal transplant recipients necessitating repeated transplantation is increasing due to acute and chronic rejection, technical problems, nephrotoxic agents (e.g. cyclosporine A, tacrolimus) and recurrence of disease. At present about 10% of our patients on the waiting list have anti-HLA class I antibodies higher 70% (previous transplantations, blood transfusions, pregnancies). Only about 10% of highly sensitised patients are grafted because of the high risk for peracute rejection, the cross-match likely to be positive and poor six months transplant survival (33%). Antibody-based immunoabsorption is a novel and effective procedure to remove pathogenic antibodies. High quality initial plasmaseparation is followed by IgG-adsorption by antibody-coated sepharose-gel columns. During one single IgG-apheresis treatment IgG can be reduced by about 65%; anti-HLA antibodies can be reduced, too. Negative cross-match can be achieved. Furthermore, there has been a significant improvement of transplant survival (1 year graft-survival 67%) IgG-immunoabsorption is an effective, but expensive procedure. Thus, it is performed by a nursing team with long standing experience in extra-corporal treatment (e.g. haemodialysis, haemofiltration, plasmaseparation). The lifetime of the expensive immunoabsorption columns depends on the quality of separated plasma and sufficient anticoagulation of the extracorporal device. Due to the possibility of removing anti-HLA antibodies, the chance of transplantations can be offered to an increasing number of highly sensitised patients.

Japanese patients not seeking kidney transplants

058

*N. Nakahara, C. Sasaki, Y. Takemoto, T. Nakatani, T. Kishimoto
Tokiwa-Tatsumi Clinic & Osaka City Univ. Med. Sch., Osaka, Japan.*

PURPOSE: In Japan, the number of haemodialysis patients seeking kidney transplants has declined since 1992, and even since the brain death law was established in 1997. Our study attempts to clarify the reasons for this trend.

METHOD: Seventy three patients, aged average 51.6, and currently undergoing haemodialysis at our centre answered a questionnaire regarding their expectations for kidney transplants. The results were compared with an identical questionnaire given in 1992.

RESULTS AND DISCUSSION: In 1992, 61.2% of all patients wanted kidney transplantation, but in 1999 the number decreased to 19.2%. The patients reasons for not wanting a kidney transplant were:

43% said their current condition is reasonably stable and they prefer the status quo care they are receiving now; 64% expressed anxiety or fear about complications, side effects, rejection of kidney transplantation; 50% have concerns about their age (60+). Fourteen patients in this study answered the questionnaire in 1992, expressing a desire for a transplant. However, they no longer anticipate receiving a kidney transplant due to these 3 reasons.

In whole Japan, the percentage of patients seeking kidney transplant dropped from 15.8% in 1992 to 7.2% in 1999. Dialysis patients are getting older and the main causative disease is diabetic nephropathy. Furthermore, the number of cadaveric transplants remains low, in spite of the brain death registration program. Patients expectations of receiving a kidney have diminished and many are disillusioned and/or discouraged. Also, since social welfare support is better for haemodialysis patients than for kidney recipients, patients are willing to maintain dialysis treatment.

An examination of the reasons for potential living donors failing to proceed to donation

052

*R. Trevitt, E. A. Ball, C. Whittaker, L. FitzGerald
Barts and The London NHS Trust, London, United Kingdom.*

This unit carried out 29 live donor transplants in the last 3 years. A lot of work and emotion is invested in the work up of living donors. As some potential donors (pds) fail to proceed to donation, an audit was carried out to see what could be learnt about those which had failed after the preliminary tests had proved satisfactory. In pds who had an acceptable tissue type, were blood group compatible and lymphocytotoxic crossmatch negative, the following reasons for cancelling the donor work up were found. Impaired renal function (5 pds): this was found at an early stage, but one pd had travelled from another country and waited 6 weeks for a first clinic visit with a nephrologist. Cardiac/hypertension (4 pds): one pd had travelled from another country before discovering an abnormal ECG, the other 3 had hypertension found during their first nephrology appointment, however 1 pd had travelled from abroad for the initial tissue typing and crossmatching. Renovascular (1 pd): multiple bilateral renal arteries were found on angiography. Cancer (1 pd): a bladder lesion was identified after blood cells were discovered in the Urine. Crossmatch positive at a late stage (3 pds): two positive results were found for both siblings of a dialysis patient – one at final preoperative crossmatch when the remaining sibling was also found to have a positive crossmatch. No cause was found. The third pd had a positive crossmatch at the final, preoperative stage. This pd had been worked up in another country and the final crossmatch was also the first crossmatch. Failure to attend at clinic/change of mind (6 pds): one pd changed her mind after the final angiogram; one developed multiple symptoms and stopped coming to clinic after preliminary tests, one did not return after the first clinic and three pds did not attend at all. Hepatitis (2 pds): both were found after the first clinic visit but one man had travelled from abroad to be worked up. Improvements carried out include a list of tests which potential donors living away from this unit – especially those abroad – are asked to do before travelling here. An information leaflet has also been produced for potential donors.

Do we value national vocational qualifications within the renal unit?

151

*J. Abbott, P. Ellis
St. Helier NHS Trust, Surrey, United Kingdom.*

During the 1990s the status of nurses as professionals was being strongly debated. One of the most convincing arguments against the recognition of nursing as a profession lay in the perception that nurse education was second rate. It was an apprenticeship training with academic learning taking second place to hands on learning. The review of nurse education resulted in students assuming supernumerary status. Who would fill the gap? What was needed was a credible alternative. Thus was born the Health Care Assistant (HCA) who would have undertaken a formal, structured training programme – namely a National Vocational Qualification (NVQ).

This research explores through a questionnaire the feelings and perceptions of qualified and unqualified health care workers towards NVQs. The results obtained from a total of 29 questionnaires clearly demonstrate the following:

1. NVQs provide an effective training and developmental tool.
2. Quality of care previously provided By students was not compromised.
3. NVQs could be considered as a recruitment tool.
4. NVQs could be used in conjunction with nurse education to complement the training of student nurses.

It also identified concerns and raised issues such as:

1. The role of enrolled nurses.
2. Future progression
3. Were HCAs being exploited purely to provide cheap labour on the wards?

This paper discusses the research process and the subsequent conclusions and outcomes.

The use of blood temperature monitors to measure re-circulation

041

*A. Cassidy
Falkirk and District Royal Infirmary, Falkirk, Scotland.*

In our recently opened dialysis satellite unit we are fortunate to have the latest technology and dialysis equipment. This includes four machines with blood temperature monitors.

It has been well documented the importance of carrying out re-circulation measurements regularly to evaluate the function of vascular access. Re-circulation measurements are also required monthly to assess adequate dialysis dose using urea kinetic modeling.

A study was carried out to compare the re-circulation percentages in vascular access using the traditional three blood sampling methods and simultaneously using the blood temperature monitor. Twenty patients, all with arterio-venous fistula, either radial or brachial, were recruited for the study. The results showed a variation between 0% and 4% using the blood temperature monitor to measure re-circulation and 75% of the results showed a variation between 0% and 2.5%.

Other advantages of using the blood temperature monitor to measure re-circulation are:

1. Non-invasive procedure for the patient
2. Time-saving for nursing staff
3. Results obtainable within five minutes
4. Cost-effective as repeated blood samples no longer required.

In conclusion we found the blood temperature monitor gives efficient and satisfactory results in measuring re-circulation in vascular access.

Reflection as a tool to enhance the nurse / patient relationship

064

*J. Collier
Renal Unit, Hope Hospital, Salford Royal Hospitals NHS Trust,
United Kingdom.*

Wright (1997) states that thinking, reflecting and learning on the job is necessary to function as a whole, however due to pressure of time, it is the doing and moving a task along that demands all of the nurses' energy and leaves little time for the former, let alone synthesis of these combined processes. This abstract and presentation will follow the identification and reflection of the author's own experiences on a clinical placement within a renal transplantation unit (as part of the ENB136/Renal Course). It highlights how this process of exposure and reflection on to the situation, enhanced the nurse patient relationship.

Reflection is an active process of exploration and discovery about what nurses do, as Dewey (1993) describes it as not merely relating to problem solving but as a way of thinking and being. Furthermore, Kolb, (1984) highlights reflection as an important part of the experiential learning cycle. During this process the author was able to recognise and accept her own beliefs about transplantation's many issues, ultimately respecting and valuing the patients and family's experience of transplant at whatever stage.

Using this reflective background the author identifies some of the main issues faced by the nurse in renal transplantation. The main themes identified focus on the cultural and religious issues of transplantation, choice of whether to donate, organ retrieval, organ allocation and medication, touching on compliance and future implications.

In conclusion, for the nurse to develop within the changing demands of Nephrology nursing roles, they must be allowed the opportunity to identify and reflect on new and previous experiences. It can be suggested that in doing so the nurse becomes confident in her knowledge and personal understanding of issues therefore giving greater meaning and strength in being an advocate. Self-identification and reflection, along with clinical exposure can enhance patient care through better understanding of health beliefs, for both patients and nurses, leading to a more collaborative approach to care.

Development of renal nurse education programmes

073

*L. Denning
Southmead Hospital, Bristol, United Kingdom.*

Governments are encouraging health service managers and leaders to recruit and retain a workforce which has the capacity, skills, and flexibility to meet the increasing and varied demands made. They further suggest that organisations will provide job satisfaction through empowerment and involvement in decision making with a further emphasis on skills development. The following initiatives are examples of how the unit is meeting this challenge within frameworks, which allow and encourage self-regulation and self-determination. One such framework is Shared Governance.

"Shared Governance is a system of management that creates an environment of empowerment for staff nurses" (Geoghegan & Farrington 1995). The Renal Unit is embracing this form of nurse management.

The Unit is currently using a competency based learning package for all new non-renal nursing staff. The timing is now right for all competencies in use to be challenged and revised. The Renal Unit Education Council is undertaking this. A clinically based experienced nurse chairs this group. All nurses within the care team are eligible to contribute to this group. Using this forum to challenge and build learning packages enables them to be meaningful to the workforce who use them. It also creates an environment that will be quickly responsive to any changes in development of practice.

To facilitate the evaluation of this process, a unit wide evaluation has been completed based on the EDTNA/ERCA education standards.

The use of an evaluation tool to facilitate equipment adjudication

101

*L. Denning
Southmead Hospital, Bristol, United Kingdom.*

As part of the Renal Unit's continuing aim to provide excellent quality of care, a 5-year programme has been devised for renewal of haemodialysis (HD) machines.

The unit aims to evaluate all new haemodialysis technology prior to purchase. However, it has been identified that bringing new HD machines into the unit and testing them to their full potential is very time consuming and unsettling for staff and patients. Limited availability of HD machines to test has often lead to the sophisticated options on offer being unchallenged.

To overcome this an evaluation tool was designed. Experienced HD nurses contributed to the design of this evaluation tool. Renal units, who were regularly using the HD machines, that we were interested in, were approached. Permission was gained for an experienced HD nurse from our unit to spend some time with an experienced HD nurse from their unit so that both nurses could evaluate the HD machine against our agreed evaluation criteria. The HD machine was then evaluated by 2 experienced HD nurses; one from the host unit and one from the Renal Unit.

The evaluation results were reviewed in a multi-disciplinary adjudication meeting as part of the tender exercise.

This evaluation method was found to be effective and efficient. It provided quality information within a limited time frame. It also allowed a wide variety of members of the multi-disciplinary team to contribute to the decision making process within a self-determining nurse management framework.

Effect of planned health education in haemodialysis patients which use erythropoietin and iron

067

*M. Gelmez, I. Erefe, A. Basçi, F. Akçiçek, D. Karadeniz
Eagen University Hospital, Bornova, Turkey.*

Objectives of this study were to measure haemodialysis patients' knowledge about EPO and iron therapy, to determine the effect of the planned health education on patients' knowledge, to draw correlations between patients knowledge and variables, to assess the impact of the educational material on patients knowledge and understanding. This study is a quasi-experimental research in an unequal control group. The study population included 80 HD patients from two different centers. 40 for the study group and 40 for the control group; 18 years of age or older, who were receiving HD and EPO with a duration of therapy of at least 3 months. The study design was to interview, provide written training material and re-interview. Chisquare, independent-samplest, paired samples t test, analysis of variense and analysis of spearman correlation were used.

There was not a difference between two groups according to age and education level ($p>0.05$). There was no statistically significant difference in pretest knowledge level between study and control groups ($p>0.05$). At the posttest it was found that there was a statistically significant difference between the patients in both groups, in favor of the study groups ($p<0.01$). There have been number of studies highlighting insufficient patients' knowledge regarding their medications. It is recommended that patients receive written information to reinforce verbal instruction regarding their medications and that counselling be especially aimed at high-risk (elderly and in-patients who did not complete high school). It was clear that the planned health education had increased their knowledge. It has been stressed that health education must be the main responsibility of nurses working in primary, secondary and tertiary health care services.

Evaluation of the effects of a memorial service on bereaved relatives and carers

118

*S. Hallett, Z. Lethbridge
Royal Cornwall Hospital Truliske, University of Plymouth,
Truro, United Kingdom.*

Renal patients spend approximately 30% of their time in hospitals having had in most cases many months and years of treatments and care within various types of institution. This type of lifestyle not only affects the patients but also has an impact upon their carers and relatives.

The effects of having a central 'treatment' point must be profound for example; distance from hospital, travelling time, enforced times. Indeed it can become a central social function for patients, relatives and carers.

Therefore when a patient with renal disease dies the bereavement and grieving process not only encompasses the response but also the added issue in some cases of social isolation for the carers and relatives.

It became very evident within the authors' place of work that the carers needed some kind of resolution. It was with that in mind that a dedicated memorial service was held within the hospital chapel, invitations were sent to carers and relatives of the deceased as well as to all members of staff.

Following the service questionnaires were sent to participants in order to assess the impact of the service. Consideration was given to the ethical dimension of undertaking this study therefor participants were contacted personally by telephone by an experienced renal nurse to ask if they would be willing to complete a questionnaire. It is acknowledged that there are difficulties in exploring and probing following bereavement.

This paper describes the outcomes of the questionnaire and discusses the impact that this service had upon relatives, carers and staff.

Using audit as a catalyst to implement universal precautions

147

*K. Harris, C. Willis
Birmingham Heartland Hospital, United Kingdom.*

A multi disciplinary working group embarked on reviewing infection control policies across three distinct haemodialysis areas. Key objectives for the working group were to:

- Define a single operational procedure for maintaining Universal Precautions.
- Ensure that the procedure encapsulated both national guidance and health and safety legislative frameworks
- Develop a teaching package to facilitate the introduction of the new procedure
- Implement best practice for maintaining Universal Precautions.

An audit cycle approach was adopted to support achievement of the objectives, in that; practice was observed, standards of care were defined (in the format of a procedure) following a critical literature review, current practice was compared against the standard to benchmark position, change was implemented and the effects of change assessed. Comparing actual practice delivered against the standard set, highlighted shortfalls in clinical practice. Identification of gaps formed the basis of a focused education programme for all clinical staff prior to introducing the change. The working group embraced the key characteristics embodied in the audit cycle to successfully implement Universal Precautions and the wearing of full face visors.

Myoglobin clearance during continous haemofiltration and continous haemodialysis

192

G. Heijnis, E. Eggenhuizen, F. Th. Huysmans, H. W. Hamersvelt
Dept. of Dialysis, University Hospital, Nijmegen, The Netherlands.

Patients with rhabdomyolysis complicated by acute myoglobinuric renal failure will require dialysis, preferably with a technique that removes the toxic myoglobin (MYOG, molecular weight 17.2 kilo Dalton). As it is questionable whether enough MYOG can be removed with dialysis, we measured its clearance during both continuous veno-venous haemofiltration (CVVH) and continuous haemodialysis (CVVHD) in 4 patients (29-70 yrs), who suffered from myoglobinuric renal failure secondary to abdominal aortic surgery (n=2), sepsis and auto-intoxication. All patients were treated with predilutional CVVH using the Prisma[®] machine (Hospal) and a 1.0 m² AN69 filter. We used no anticoagulation in three patients because of thrombopenia (33-55*10⁹/L) and heparin 375 IU/hr in the remaining patient. Blood flow rate was set at 180 ml/min and substitution rate at 2,000 ml/hr. MYOG dialysate clearance was measured until the end of filter survival (range 12-72 hrs), both in CVVH mode and in CVVHD mode by switching to CVVHD for 30 min (dialysate flow rate of 2,000 ml/hr without ultrafiltration to reach comparable clearance of small molecules). Creatinine clearance was slightly lower with predilutional CVVH (29±2 ml/min) than with CVVHD (32.3±0.4). MYOG clearances (ml/min) are given in the table.

	3 hr	6 hr	12 hr (n=3)
CVVH	11.2±0.7*	9.2±0.3*	8.1±0.4*
CVVHD	6.8±0.4	6.4±0.5	5.0±0.2

means±SEM; *P<0.05 vs CVVHD

In the patient with 72 hours filter survival, MYOG clearance decreased to 6.3 after 24 hrs and to 4.0 after 64 hrs CVVH. In 2 patients where enough serum MYOG levels were available, the decrease in serum MYOG levels was not clearly enhanced by the start of CVVH.

In conclusion, even without the use of anticoagulation, both CVVH and CVVHD can remove substantial amounts of MYOG, although CVVH is approx 50% more effective. However, the contribution of CVVHD to the total removal of MYOG from the body (largely by metabolic clearance) seems too small to justify the application of this technique for prevention of MYOG renal failure. Our data also do not support preference of CVVH to CVVHD once patients have developed MYOG renal failure.

The subjective sleep experiences of CAPD patients

130

L. P. Lappin
Renal Unit, Hope Hospital, Salford Royal Hospitals NHS Trust,
United Kingdom.

The aim of this study was to investigate the subjective sleep experiences of a representative sample of renal patients on CAPD. It was hypothesised that there would be a significant difference between the overall sleep experiences of 36 CAPD patients compared to a control group of 36 healthy adults. Data was collected by using the Pittsburg Sleep Quality Index, Buysse et al (1988). The design used was a 2x2x4, 3-factor randomised group analysis of variance. The three independent variables were gender, participant group and age. A global PSQI score demonstrated a significant main effect due to participants, $F(1,56) = 22.56$ $p < 0.0005$ indicating that the dialysis group experienced an overall deteriorated level of sleep. The results also indicated that the dialysis patients experienced problems in the areas of subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, and daytime dysfunction. There were significant interactions between participants and age for sleep latency and habitual sleep efficiency. The results for sleep disturbances and use of sleep medication showed no significant differences between the dialysis and control groups. It was concluded that CAPD patients encountered poor sleep with excessive daytime dysfunction. Recommendations for further research/interventions have been made.

Patient-Nurse interaction and the effect on patient satisfaction of use on haemodialysis

125

T. Hodnett
Renal Unit, St. Woolos Hospital, Newport, United Kingdom.

I concluded after working on a satellite and a hospital based haemodialysis unit, there was greater patient-nurse interaction on a satellite unit. The latter was nurse led and the hospital based haemodialysis unit had a medical orientation. This was the basis of my dissertation, and raised a further question; 'did the interaction affect their satisfaction?' A pilot study was undertaken to compare the difference in patient-nurse interaction in a hospital based haemodialysis unit and a satellite haemodialysis unit. A questionnaire was distributed to 6 patients on each unit to assess how often the nurse discussed all aspects of life on haemodialysis and, whether there was any effect on the patients' satisfaction of life.

The results proved the hypotheses that the nurses did spend more time talking to the patients in the satellite units. However the patients on the satellite did not feel the need to discuss issues with the nurses, as they had no problems with life on haemodialysis. The patients in the hospital-based unit felt they needed to talk to the nurses, as they were dissatisfied with their life on haemodialysis. They also appeared to be more focused on the medical aspects of haemodialysis as opposed to living with haemodialysis. Does this indicate a difference in culture between the 2 units? The hospital-based nurses are focused on the medical aspects, as they need to care for more acute patients, requiring more time. Therefore the stable chronic patient only receive attention when there are complications with their treatment. The satellite unit focus is on leading a normal life, as the patients are generally well. The satellite nurses have time to chat and provide holistic care, due to spending less time on acute intervention. Is this an area for further investigation to improve care?

Improving care and efficiency: the introduction of appointment times in a haemodialysis unit – a case study

143

Ph. Lunts
Baxter Dialysis Unit, Ipswich Hospital, United Kingdom.

Shortage of nurses and dialysis spaces and the desire to improve patient care can be addressed by organisational change. We describe a simple, dramatically effective but rarely used example – the introduction of patient appointment times.

In June 1998, following complaints over waiting times, we carried out a workload analysis. This revealed short bursts of intense activity with long periods of relative quiet. It was clear that a more planned approach would even out the workload.

We took a step-by-step approach to the introduction of appointment times, including early involvement of the transport dept, and "backwards planning" – planning schedules around patients end time to reduce busy changeover periods. We set a standard of commencing dialysis within 30 minutes of appointment.

Following introduction of appointment times:

- 70% of patients commence dialysis within 30 minutes and 90% within 45 minutes of appointment time. No patient waits more than one hour
- machine use and turnaround is far more efficient, resulting in finish times up to 1 hour earlier
- staff report far more opportunity to spend time with each patient
- 21% more patients can be dialysed with the same staffing numbers
- we can plan patient capacity and staffing rotas far more effectively

Influence of the ultrafiltration and sodium profiled dialysis to Kt/V values

003

N. Mehmedovic, N. Tesic, E. Mesic
University Hospital Tuzla, Bosnia and Herzegovina.

In our Dialysis Centre we examined a group of 22 patients, with intention to find out either ultrafiltration (UF) and sodium profiles could have influence to Kt/V values. We examined 8 male and 14 female stable ESRD patients, different ages and primary disease, 15 in an experimental and 7 in a control group. At the beginning examination all patients had a Kt/V taken and average values were worked out, 1.42 for the experimental and 1.34 for the control group. All patients were treated under same conditions (same machines, dialyser, dialysate flow, blood pump speed, dialysis time and same variation for experimental group). The Control group was treated under the same conditions without variations. The Examination lasted for six dialysis sessions. We took blood samples from the arterial site, at the end of dialysis, we slowed the blood pump speed to 120–150 ml/min to avoid rebound. From all blood samples we separated serum and froze it to avoid laboratory mistakes. Blood flow was 250–300 ml/min for each patient individually, for all dialysis time. We used UF and sodium variation No 6 from six offered variation Fresenius 4008B machine. This profiles have extremely strong ultrafiltration for the first 20 min. with lower UF value following, and a period without UF at all. After the first profiled dialysis in the experimental group we found 1.41 average value Kt/V, 1.40% lower than start value. After six profiled dialysis we found 1.48 average value Kt/V, 3.49% higher than the start value. In the control group we found after six dialysis 1.27 average value Kt/V, 5.22% lower than start value. Comparing the values it is possible to see there are no large differences between average values in the experimental groups. In control group we found again, no large differences between the average values. We concluded there is no significant influence UF and sodium variation has to Kt/V values.

An alternative approach to pain control in PD

090

S. M. Owen, E. A. Baker
Morrison Hospital, Swansea, United Kingdom.

A study was carried out into the use of Transcutaneous Electrical Stimulation in the immediate post operative period after the insertion of a Continuous Ambulatory Peritoneal Dialysis Tenckhoff catheter. The aim of the study was to look at the effectiveness of this device as a means of pain control after access formation. In renal patients, using analgesics/opiates as a form of pain control after access catheter insertion can prolong and complicate recovery. It is known that the main problem of pain is derived not from the surgical incision but from the tip of the catheter inside the peritoneal cavity. The study involved 12 patients using a Transcutaneous Electrical Stimulation machine in the post operative period. The results showed that only one patient from the study required additional analgesia in this period, and that this form of pain control was found to be effective after access formation. The device continues to be used in the post operative period, and consideration is being given into the use of pain control in other aspects of continuous ambulatory peritoneal dialysis treatment.

The impact of earthquake on peritoneal dialysis patients

098

D. Özdemir, T. Watkins, Y. Gülöksüz, Z. Özkan, N. Albaz
Eczacıbasi-Baxter, Istanbul, Turkey.

On the morning of August 17th 1999 at 03:02 hrs Turkey experienced an earthquake of 7.4 intensity. Five provinces, Istanbul, Bursa, Kocaeli, Yalova and Sakarya were affected. These regions contain 22% of the country population and are at the heart of Turkey's industrial centre. The official number of lives lost is 15,000 although the unofficial number is said to be much higher. The economic impact of the earthquake will be felt for many years.

There are 11 PD centres in the earthquake region. The PD centre of Kocaeli University was very badly damaged and rendered unusable. The hospital had to be completely emptied and the services shifted to tents. The first few days following the earthquake, the busy traffic and communication problem hindered us in reaching the PD patients. Totals of 455 PD patients are located in Marmara, Kocaeli, Adapazari, and Yalova region and these regions saw the greatest amount of destruction of buildings and homes. On the fourth day we were able to visit each patient's home or temporary accommodation for those patients who had had their homes destroyed. We ensured that patients needs for dialysis solutions, drugs and other materials were met. We also provided tents for those who did not have them and helped make their environment suitable for carrying out PD therapy.

The following is a summary of the information collected:

- Ten patients migrated to the cities, abandoning their homes following the initial post earthquake stage.
- The first four days following the earthquake were the most difficult for our PD patients because of lack of their PD supplies and poor environment due to destruction of homes.
- Two patients lost their lives when their homes collapsed.
- One CAPD nurse lost her life when her home collapsed.
- Two patients needed hospitalisation due to hypervolaemia and drainage problems.
- Four patients developed peritonitis and were treated by their PD centres.
- Four patients were maintained on their APD therapy by installing electricity in their tents.
- One patient was transferred to haemodialysis due to developing a leak.

Conclusion: The earthquake was a devastating experience for all dialysis patients. The initial period following the earthquake was difficult. The dedication and tireless work by hospital staff, rescue workers, charities and industry all contributed to the good work following the earthquake.

A new dialysis device in “busy” network

002

*R. Piga, L. Rosano, M. Vadori, C. Sicuranza, A. Calabrese, B. Flatau, C. Iaconianni, M. Aragno, F. de Franco, S. Ferrero
Nephrology and Dialysis Unit, Ospedal Giovanni Bosco, Torino, Italy.*

In the crowded dialysis wards, the needs of simple, secure and quick to use dialysis machines are warranted. The monitor a new device engineered, is a single-pass, ultrafiltration-controlled (according to Coriolis’ principle) dialysis machine, initially developed to fit standard requirements for acetate and bicarbonate dialysis. The device may utilize bicarbonate buffer, either as liquid or in powder. The most important technological feature is the new hydraulic compartment which is built in a vertical pathway, allowing a rapid removal of air from the circuit. Water quality is assured by two filters assembled on the dialysate pathway: the first and anti-bacteriological device at the entering of water is able to prevent bacterial contamination; the second, located in a more distal part of the circuit, is useful for endotoxin and bacterial products removal, which may reach the circuit from tap water, dialysis concentrates and eventually grow within the machine. This filter works in a “retrofiltration” mode, ameliorating the performance in terms of pyrogen-free dialysate and allowing better sterilization procedures with the opening of a distal valve on the “filtration” pathway, in comparison with the filter operating on the machine. The data concerning the different parameters of the blood and dialysis pathways are shown on a wide screen, easy to read, according to a “double confirm” protocol, which means that the operator always has to confirm the selected options, following a principle of protected decision. Three machines have been using for several months in our unit. All the staff were able to use the machine in a week, confirming the simplicity of the device since their first contact, with no differences between experienced staff and new nurses (learning time with a new machine ranges from 10 to 15 days, usually with differences between differently experienced nurses). No clinical problems and no main technical problems were detected along this period; some ameliorations have been suggested to production staff in order to improve the user-machine dialogue and to allow further parameters modification during the sessions. Concerning the sterilization procedures, we are now using chemical substances (amuchina, peracetic acid, dialox), also taking into account the available possibility to use heat (or heat chemical) procedure. This is possible by means of the special plastic

tubing used by the machine, and a special tank, which allows the temperature to be as high as 98° Celsius at the inlet and 87° Celsius at the outlet. Detailed data about LAL tests and bacteriological counts at different points along the hydraulic pathway will be discussed, according to different sterilization procedures. The monitor seems to be a good option for standard bicarbonate treatments in “busy” dialysis units, according to a very simple and friendly dialogue, a quick “ready to use” operational status and a very clean dialysate pathway.

The use of workshops for providing pre-dialysis information

082

*J. Price, L. Walwyn, H. Chamberlain
Leicester General Hospital, NHS Trust, Leicester, United Kingdom.*

Pre-dialysis education of the renal patient is necessary to increase knowledge, encourage compliance and maximise the adequacy of treatment. Historically the Department of Nephrology held formal education sessions with patients and carers in a large lecture theatre. It was recognised that this format inhibited interaction between themselves and health care professionals. An audit of patient views of the session highlighted the preference for smaller groups in a more informal environment. It was evident that contribution from existing dialysis patients and provision of written information was desirable. Through comprehensive collaboration with the multidisciplinary team, a new innovative format of delivery pre-dialysis information evolved. Workshop style sessions were implemented to facilitate a more interactive process between patients and health care professionals; the aim being to encourage self care and compliance. The sessions covered the main treatment modalities of haemodialysis, peritoneal dialysis and transplantation, reverting to the traditional lecture theatre format for short lectures on related topics in the afternoon. Existing dialysis patients were invited to share their experiences and to promote a realistic image of dialysis. Evaluation of patients’ perspectives of the new format have been positive. The movement between workshops was thought to be a potential problem but evidence suggests otherwise. Existing patients are keen to be involved and relish sharing their experiences with new patients. The day provides an opportunity for new patients to meet other new patients, staff and existing patients in an informal environment, providing a valuable support network. On average there is an attendance of fifteen patients plus carers to each session, to be increased from four sessions per year to six as from next year. The new format information day initiates the preparation and assessment process whilst most who attend are in reasonable health and relatively receptive. While the new format is proving to be effective it is only the first step towards providing comprehensive education for this client group. An unexpected benefit has been the opportunity this forum has provided for the orientation and education of staff new to the Directorate.

What level of informed choice are patients given prior to deciding on treatment modality?

083

*R. Lee
Southmead Hospital, Bristol, United Kingdom.*

Patients approaching end stage renal failure are monitored within outpatient clinics and a wide variety of criteria are used to instigate referral for pre-dialysis education. There are no standards that exist for education, and units individually set their own standards with delivery of education being from nursing staff. Is the delivery of education focused on influencing factors such as availability of treatment, staff and financial resources and also individual staff bias? Ethics of care with regards to education and information giving have a direct influence on pre-dialysis education. There are a number of ethical factors that should be looked at when creating education packages for patients such as the Human Rights Act, Patients Charter, codes of professional conduct. This paper will discuss existing practice within our unit to give a clear indication of how the education package was established, what it contains, and delivery of this information, before continuing to look at how this influences patients’ choice. Patient education is tailored to the individual’s requirements based upon the healthcare professional’s judgement which therefore introduces an unconscious bias, which leads the information giver to the conclusion that informed consent has been obtained. The important question is: do we give patients full informed choice for treatment and how is informed choice defined?

Employment status at start of dialysis and six months after

044

M. C. Reuselaars, C. J. Janssen, R. Visser, F. W. Dekker, E. W. Boeschoten, R. T. Krediet for the NECOSAG-study group, Depts. of clinical epidemiology & biostatistics and nephrology, Academic Medical Centre, Amsterdam, The Netherlands.

Employment status of chronic dialysis patients has been examined in several studies, but their results differed. Besides, the changes in employment status after start of dialysis have not been examined yet. Therefore, the aim of this study is to examine the changes in employment status during the treatment.

We included consecutive new ESRD patients, aged between 18 and 65 years. Data were collected at start of dialysis (t=0) and six months after (t=6). So far, we enrolled 100 HD and 75 PD patients. Mean age was 50 (HD) and 45 years (PD). 60% (HD) and 67% (PD) was male.

	employed (t=0)	employed (t=6)	disabled to work (t=0)	disabled to work (t=6)
HD	31%	30%	26%	27%
PD	41%	40%	31%	32%

More PD patients were employed, but not significantly. Mean age of employed patients was 44 years and of disabled patients 49 years (p<0.05). Employed patients had less comorbid conditions. Employed patients scored 6 points higher on the mental component summary score (MCS) of the SF-36 (p<0.05). This score is mainly based on mental health and role function emotional of the patients. Employed patients scored also 4 points higher on the physical component summary score (PCS), but the difference is not significant. The PCS-score reflects physical functioning, role function physical, bodily pain, general health and vitality. Of the employed patients 5 HD patients and 4 PD patients were classified as partially disabled for work purposes at the start of dialysis. At six months 10 HD and 8 PD patients were classified as partially disabled. In conclusion, employed patients differed from disabled patients, but no effect of dialysis on employment status has been measured in the first half-year.

Differences in weight gain between haemodialysis and peritoneal dialysis patients after renal transplantation

062

J. C. M. Schreurs, J. W. J. Beulens, L. M. W. van Venrooij, J. H. M. de Vries Division of Rehabilitation and Nutritional Sciences, University Medical Centre Utrecht, The Netherlands.

Objective: It is known that patients gain body weight after renal transplantation. The aim of this study was to compare differences in weight gain between patients previously treated by haemodialysis and peritoneal dialysis after renal transplantation.

Method: Thirty-seven haemodialysis patients (18 males) and 27 peritoneal dialysis patients (15 males) were included. Their serum creatinine was below 200 µmol/l one year after renal transplantation, and they had been treated with dialysis for at least 6 months. Retrospectively their body weight and body mass index (BMI) were registered 1 day, and 1, 3, 6, 12 and 18 months after transplantation. All patients received prednisolone.

Results: From 1 month until 18 months after renal transplantation the mean weight gain of haemodialysis patients (5.9 ± 5.9 kg [±SD]) was significantly higher (p=0.01) than that of peritoneal patients (1.8 ± 6.6 kg). Men treated by haemodialysis gained 5.3 ± 4.9 kg and those treated by peritoneal dialysis 0.3 ± 6.0 kg (p=0.013). In women no statistical differences were found. Eighteen months after transplantation the BMI of haemodialysis patients (25.3 ± 4.1 kg/m²) was significantly higher (p=0.021) than that of peritoneal dialysis patients (23.0 ± 0.5 kg/m²). The percentage of patients with obesity (BMI >25 kg/m²) ranged from 20% of men treated by peritoneal dialysis to 58% of women treated by haemodialysis.

Conclusion: We found large differences in weight gain between haemodialysis and peritoneal dialysis patients, and between men and women after renal transplantation. We conclude that it will be necessary to account for differences in risk of developing obesity between these patients in order to enable better individual dietary recommendations.

Needs for additional education

186

N. Smolander, A.-L. Kakko, R. Paakkonen Hospital For Children and Adolescents, Helsinki University Hospital, Helsinki, Finland.

This study is based on a questionnaire concerning the needs for additional education of 15 registered nurses, 10 children's nurses and a secretary at internal, renal and transplantation ward.

We assumed the nursing staff will need additional education in order to improve the quality of care and to be able to meet future demands of practice nursing.

In the questionnaire we asked what kind of additional education the staff had already participated in and about their needs for future education subjects and wishes for future lecturers. We also wanted to find out staff's willingness to plan contents of education.

As a result the questionnaire showed that 88,4% of answered staff had taken part in additional education concerning extensively the area of renal care, asthma, psychological and sociological aspects of care.

For the future educational subjects we received 35 different proposals covering almost the whole area of practice and a part of the science of nursing area. The subjects varied between practical rehearsal sessions to large theoretical issues of medicine, pharmacology and practice nursing. It was wished to have lectures from all professions of the multiprofessional team of care and approximately 50% of answered staff wanted to actively take part in planning and deciding the educational program.

Conclusion: The nursing staff had been interested in additional education and had a great potential for new educational suggestions to create future education programmes.

Patient satisfaction with pre-dialysis information

141

R. Trevitt, C. Whittaker, E. A. Ball, L. Fitzgerald Barts and The London NHS Trust, London, United Kingdom.

The amalgamation of two major renal units offered an opportunity to examine patient satisfaction with pre-dialysis education, in order to assist with future development of the service. All patients who had commenced dialysis within the previous 12 months were sent a Likert style questionnaire plus open ended questions, to elicit the level of satisfaction with the information received and to see which areas could be improved.

The response rate was 52.5%. Responses were grouped according to treatment modality and site of treatment. Positive results were obtained for all Likert scale questions by all groups. Most respondents were satisfied with the information received before dialysis modality was decided; they knew who to ask for further information, and the information given helped to decide which modality would be best. The PD group showed more satisfaction than the HD group. This may be because they are a self-selected "able" group doing their own dialysis. They also spent more time with nurses during assessment for PD and when training. Some patients may have felt pressured to have PD but this did not come out in the survey. The IHI group included patients unable to self-dialysis and the PD failures. The home HD patient group was too small to allow comparison. Half of all comments indicated that there was no room for improvement or that no improvements could be thought of. The site having the nurse educator as a primary role was rated more highly than the unit where the nurse had to make time for patient education from a base in a busy clinical situation. In this site the doctor was more often cited as the source of knowledge and advice.

The survey highlighted strengths and weaknesses in the pre-dialysis strategy and offered ideas for developing the nurse educator role, but equally important was the high level of satisfaction found across both sites.

A quality or the quality of life of renal patients?

123

V. Zugic, M. Milosevic
LKH Feldkirch, Austria.

A renal patient in terminal stadium is daily confronted with his enormous limitations and problems caused by his illness, dialysis itself and other complementary diseases. It has been always written about the quality of dialysis but not about quality of life. We wanted to find out which and if there are any differences between HD, CAPD and NTX patients according to this topic. Our goal is to approve the quality of care of renal nurses and find the appropriate way to get more information about the "well-being" of our patients. All important aspects of the life quality (social, financial, physical, psychological, sexual etc.) were involved and integrated in the form of questionnaire made by the authors. 136 of the questionnaires were returned. To analyse them we used CHI-QUADRAT TEST and the results are presented in graft and table form. The research project provides some new interesting facts about the differences in social aspect, between HD, CAPD and NTX patients and specially according to their age. On the other side, interesting is the similarity between male and female patients according to the "low quality" of their sexual lives. The women are not these who "always can"! This opinion was also spread among the nurses themselves! In the daily practice we could see another order in the lists of "priorities" by nurses dealing with non-compliant patients. Another important achievement: we "persuaded" the nephrologists to allow visitors during the dialysis time! This was a big step for all of us and a great happiness for our patients!

The authors are working, at the moment, on the extended version of this project considering other aspects given in the questionnaire, also analysing them on statistic and scientific base.

Poster

What about our satellite patients?

112

J. Krivosic, C. Ahmad, M. Kelly
The Hammersmith Hospital, London, United Kingdom.

The growth in the end stage renal failure population and subsequent demand for dialysis facilities has resulted in the increased provision of haemodialysis in satellite or minimal care units. As patients dialysing in the minimal care units at our centre are not routinely reviewed by Dietitians, we were interested to compare the nutritional parameters of patients in our Main Dialysis Units (AKU) as compared to our Minimal Care Unit (MCU) to help plan future service development.

A cross sectional study of 257 haemodialysis patients was undertaken. 100 AKU patients (46% Male) and 157 MCU patients (67% Male). Data was collected on sex, ethnic origin, diet, body mass index (BMI), serum potassium, phosphate, albumin, cholesterol, and parathyroid hormone (PTH). Comparison of the AKU and MCU data was performed using chi square.

Patients dialysing in the MCU were found to be significantly younger than in those in the AKU (57yrs vs 64 yrs, $p < 0.001$). Increased age was found to be associated with lower albumin levels ($p < 0.001$). Phosphate levels outside of the agreed unit standards were found in 30% of the MCU patients (mean 1.73 ± 0.55) and 18% of the AKU patients (mean 1.63 ± 0.49) which was of borderline significance ($p = 0.058$). BMI, serum potassium, PTH and cholesterol were not significantly different in the two groups.

The results demonstrated a more elderly population with lower albumin levels in the AKU potentially placing these patients at higher nutritional risk. As a result we are providing more tailored dietetic resources to the AKU. The trend in increased phosphate levels in the MCU also warrants further investigation. It may be useful to consider methods of identifying those in the MCU who would benefit from more individual dietetic advice and the resources that would be most effective in this group.

Cardiovascular disease (CVD) risk factor profiling in renal transplant recipients in nurse led clinics

054

E. A. Ball, R. Trevitt, C. Whittaker, L. FitzGerald
Barts & The London NHS Trust, London, United Kingdom.

The renal transplant population is deemed to be at high risk of CVD due to renal disease and immunosuppressive drug therapy. CVD being a major cause of morbidity and mortality in this group. One of the commonest causes of graft loss is due to premature death of the recipient, often with a stable functioning graft. In our unit we set up a nurse led clinic to assess renal transplant patients for CVD risk factors, and placed a programme of care to manage these risk factors by protocol. The aim being to reduce CVD events and prolonging patient and graft survival in the long term. From the initial assessment it was planned for patients to be profiled annually.

246 patients were profiled for CVD risk factors to include hyperlipidaemia, hypertension, diabetes, obesity, family history, smoking, documented LVH and a history CVD. Patients were given lifestyle advice including dietetic, weight control, exercise and advised on smoking cessation.

106 (43%) patients had a elevated cholesterol which was managed by diet and lipid lowering drug therapy, to achieve a target cholesterol of $< 5 \text{ mmols/l}$ or 20–25% or pre treatment cholesterol. 45 (18%) patients were hypertensive and required treatment, target blood pressure being $140/85 \text{ mmHg}$ (MAP=103) or less. 37 (15%) patients were diabetic, they were advised on tight glycaemic control (HBA_{1c} measured) and encouraged to attend their diabetic follow-up. 47 (19%) admitted to smoking. 147 (59%) had a BMI > 25 , 78 (31%) had a family history of CVD, 46 (18%) had a history of CVD.

Risk factor profiling for CVD in a nurse led clinic is an excellent way of case management by protocol. Patients were given time and the opportunity to discuss health issues with the nurse. Reassessment at one year demonstrated an improvement in risk factor profiles. On evaluation we had reduced risk factors, had improved on monitoring of results and the patients condition relating to CVD, and were appropriately measuring outcomes for audit purposes. The long term benefits as yet cannot be demonstrated.

Development for healthcare assistants into the next millennium

076

A. Bibi, C. Willis
Birmingham Heartlands Hospital Birmingham, United Kingdom.

Skill development is an integral element in the formulation of any human resource strategy, especially since the Department of Health launched its paper "Working Together: Securing a quality workforce for the NHS (1998)". The paper describes how a quality workforce is essential to the delivery of a modern and dependable service.

With the national shortage of clinical resources available in the NHS, the role of the Health Care Assistant is becoming increasingly vital to the delivery of high standards of care.

For staff to fulfil this contribution, it is essential that key training objectives and a structured development programme be designed within the renal care environment.

The renal unit has implemented a specific training and development programme for all of its Health Care Assistants.

The key objectives for this training programme are:

- formal and supernumerary renal induction plan
- clinical competency framework relating to haemodialysis duties
- assignment to a qualified nurse mentor
- health and safety awareness training
- achievement of NVQ level 2 and 3 in direct care

Each individual's progress is managed through a personal training plan and quarterly appraisals.

Staff have embraced this programme, and in return are able to demonstrate competence and to make a full contribution as an integral part of the health care team. This investment in people results in enthusiasm to both adapt to change and to actively participate in the generation of ideas to facilitate improvements in renal care.

Are nursery (nurse) professionals actually measuring correctly the blood pressure?

104

E. Cabello, M. Zudaire, M. Llata, M. Rojo, R. Alonso
University Hospital Valdecilla, Santander, Spain.

Introduction: Arterial hypertension (HTA), is one of the most important factors of cardiovascular disease. Moreover, chronic renal insufficiency due to secondary vascular nephrology to HTA is becoming the main cause for entry into the dialysis programme.

As HTA has settled down in patients with IRC, it can increase up to 80%. It is widely known that appropriate control of the arterial tension decreases the death rate among hypertensive patients. Within our area, this control is mainly done by the nurse professionals.

Taking the right arterial tension, as a technical act leads to many errors. For all that it is necessary to follow a rigorous method and proven systems must be used.

Materials & Methods: As our group is really concerned about this point, conscious of the importance of the problem and knowing that most of the responsibility of its correct use depends on the nurse professionals, an in-depth research has been done about the technical aspects of blood pressure measurement in our hospital and three other health centres. 121 nurse professionals have been asked to fill a questionnaire about the measuring systems, calibration, measurement methods and theoretical skills.

Results: Important, it shows very clearly how most of the times blood pressure is not well measured and nurse professionals do not always have appropriate methods to do it. In any case, all the people surveyed were extremely interested in learning new knowledge about this fact, as a lack of information has been noticed.

Conclusions: To conclude, we believe rigorous protocols must be established to measure blood pressure, that extensive information about it must be offered and how important it is to get the right measure.

Thinking about the future, the solution will lead hypertensive people to measure their own blood pressure; before that, we'll have to show them how to do it, and we must be prepared to do so.

Case report-acral necrosis of a diabetic with ESRF

028

A. Karabetsov, S. Christopoulou, S. Spirou, E. A. Papathanassiou
251 Hellenic Air Force and VA General Hospital, Cholongos, Greece.

Foot lesions are the single most commonly mismanaged problem of the diabetic patient with renal insufficiency, and many unnecessary amputations are performed. Most foot problems result from neuropathy; a smaller proportion results from ischaemia secondary to arterial occlusive disease and some are due to a combination of both, which carries a particularly adverse prognosis.

The aim of this presentation is to report a female patient, aged 67, who has had diabetes melitus type II for 15 years and has been on haemodialysis for 6 months. The above patient has presented severe ischaemic lesions in her right lower limb. The gangrene occurred when perfusion pressure in the posterior tibial artery fell below 50 mmHg. We have submitted our patient to duplex sonography and angiography to evaluate the potential for bypass, percutaneous transluminal angioplasty or thrombendarterectomy. Extensive necrosis and gangrene was dealt with surgically foot amputation at first and amputation until the middle of the leg later.

We have reviewed the bibliography and studied methods and ways to avoid these lesions in our patients with diabetes melitus in haemodialysis.

Assessment of health quality of patients on chronic haemodialysis treatment with SF-36 health scoring

195

M. F. Codita
Goztepe SSK Hospital, Istanbul, Turkey.

As a result of the development in technology, the survey of patients on haemodialysis has been significantly prolonged. Despite the prolonged survey, health quality has been declining. The aim of this study was to evaluate the relationship between the health quality scoring test. The patients were examined in two groups. Group 1: Patients on haemodialysis (HD) for 0-24 months (n=85, M=45, F=40) Group 2: Patients on HD longer than 24 months (n=55, M=31, F=24). At the end of the study, it was concluded that in group 1 the wellbeing and functional status were lower than in group 2. On the other hand general health condition and social functional parameters were better. Especially, hopelessness was a common symptom of group 2 patients. As a result, it was concluded that poor quality of life of the patients on HD was related to a lower educational level, (insufficient knowledge about their illness), long duration of the therapy, and underlying illness.

Learning to drive

078

*D. Dahan, J. Barrie, E. Milo
Western Galilee Hospital, Nahariya, Israel.*

We present a poster showing the procedure a patient went through to be able to perform haemodialysis at home. The presentation is from the patient's point of view. "As a relatively young patient, I was offered the chance to have dialysis at home, thus being able to go on working and maintain a high quality of life. As problematic as it may seem and though more physiologically and mentally painful, this process was quite like a driving course, as I would not be allowed to use the machine on my own before obtaining my licence. In addition to theoretical and practical lessons and evaluation of my motivation, my family's support and emotional stability, the physical home environment, and my intellectual and psychomotor skills, the explanations and practice were seemingly endless and sometimes exhausting. It wasn't always speeding down the freeway. The road was often full of bumps and curves, with a few dead ends. The nurses, along with a multidisciplinary staff constructed a comprehensive program and accompanied us along the way with information and support. In practice, both my wife and I had virtually become experts! Having to do this at home, unsupervised requires a great deal of responsibility, and just like driving, is a matter of life and death. Learning something new involves many problems, which lead to stress, hesitation and doubts about it all. Physiological problems, like with my health or fistula led to anxieties and suspicions that I could not handle dialysis at home. However, learning to drive means considering the obstacles and coping with them. Every day is like a test. I have passed and am now the proud owner of a DDL (Dialysis Driving License) and can continue working full time and spend more hours at home with my family." In conclusion, this shows that when you make a special effort to fulfill a patient's individual needs, the quality of care and the level of satisfaction is very high. Driving Lessons paid off!

Recruitment of overseas nurses – cultural implications

047

*J. Hayes, S. Stacey
Oxford Renal Unit, Headington, United Kingdom.*

To resolve the national recruitment crisis of registered nurses in the United Kingdom, we in April 1999 successfully employed 21 nurses (2 male and 19 female) from Singapore and the Philippines. The aim of this study is to look at the cultural implications both for the overseas nurses and the staff already working within the unit. The overseas nurses arrived in 4 groups each from a mixture of different destinations, between July 1999 and October 1999. They undertook a 2 week structured orientation programme and were then allocated to the clinical area. The nurses were placed in seven different clinical areas depending on their previous experience and personal preferences. Over the next 6 months they had to achieve competencies to attain their U.K.C.C. registration. The competency development was based on the U.K.C.C. recommendations for practice and 3rd year students' competencies. Two separate questionnaires were devised to examine both the overseas nurses and mentors perceptions, adjustment abilities and coping mechanisms to deal with this process. The questionnaires were given anonymously at 3 months then 9 months after individuals arrived in this country. Each participant in the study had the opportunity to talk confidentially to an independent interviewer at these given times. The results were then examined and passed on to other areas within the employing hospital to assist in improving cultural transition for all individuals concerned.

Burnout syndrome in the nursing personnel working in dialysis

158

*E.M. Edez-Repeto, R. del Campo, B. Rotas, J. M. Martinez Delgado
Hospital Universitario Puerto Real, Cádiz, Spain.*

The aim of this study was to evaluate burnout syndrome by means of the MBI questionnaire in the nursing personnel working in dialysis units, and to find possible links to certain social dimensions at the workplace. In addition, the general non-psychotic psychopathology and its relation to burnout was to be studied following the GHQ-28 questionnaire. Of the 77 questionnaires that were administered in total, 71 (92%) were returned and could be evaluated. The representative health worker's profile turned out to be the following: female(72%), age 36.7 years, married (65.30%), mean time of marriage 13.6 years, children(52%).78% of the participants were permanently employed (70% of which on alternating shifts). They had been working as health care professionals for 14.7 years, and the average time of work in dialysis units 10 years. The results measured in the three sub-scales (RPA = reduced personal accomplishment, DP = depersonalisation, EE = emotional exhaustion) turned out to be low to moderate, with slightly higher levels in RPA. The results of the GHQ questionnaire are summarised in 'no case' (78.9%) and 'possible case'(21.1%) categories. The evaluation of possible links between social variables at the workplace and levels of burnout and its association the total GHQ-28 scores demonstrated the following: The components measured on the RPA sub-scale are slightly increased in male participants and in those who work on alternating shifts. The variables 'time of work in dialysis units' and 'total working years' slightly reverse the burnout components measured in the EE sub-scale results. Conclusions: In this study, the levels of burnout syndrome turned out to be low to moderate, and the social dimensions at the workplace have practically no influence on the results. The variables associated with the total of working years and the years of professional experience in the field of dialysis decrease levels of burnout. Burnout was not found to be associated with non-psychotic psychopathological disorders, although the presence of some psychopathological symptoms to be associated with emotional exhaustion.

The effect on quality of life of the transfer of CAPD patients to APD

086

*H. S. Jackson
King's College Hospital, London, United Kingdom.*

The decision to transfer patients from CAPD to APD is often based on psycho-social factors. Nutritional intake and status may be affected by psycho-social factors and quality of life. This study aimed to determine the short-term effect of the transfer of patients from CAPD to APD on their quality of life. Eight CAPD patients were assessed twice, within one month prior to and one to two months after commencing APD. A control group of eight CAPD patients, comparable for age and gender, in whom no change in dialysis was expected were assessed at equivalent time points. A self-administered Medical Outcome Trust Short Form 36 questionnaire was used. An additional Attitude to Eating (ATE) questionnaire to assess subjective appetite, satisfaction with intake and experience of nausea using a linear analogue self-assessment technique was piloted in the study. Seven patients in each group completed the study. The study group experienced a negative change in physical functioning, role-physical, role-emotional and vitality scores. The control group reported either no change or a small positive change in these scores, but reported a significant decrease in bodily pain score ($p < 0.05$), whereas there was no change in the study group. There was a small, overall improvement in satisfaction with intake in the APD patients, but there was no statistically significant difference between the groups in the mean change in subjective appetite, intake or nausea. There is a need further evaluate the short and longer-term effect of transfer to APD on quality of life as no benefit was found in this study. Routine monitoring of quality of life may help to prevent and treat nutritional problems and practical tools are available to achieve this.

Overseas recruitment – is this the way forward?

o46

M. Jeffrey
Oxford Renal Unit, Oxford, United Kingdom.

Within this paper I propose to look at the practical and management issues arising when recruiting specialist renal nurses from overseas, in particular from the Philippines.

Recruiting and retention problems are being felt within all fields of nursing but within the renal speciality they are extremely acute. The impact of this on the operational performance of the renal unit had wide repercussions resulting in the decision to recruit from overseas.

In April/May 1999 we began a pilot project resulting in a recruiting visit to Singapore and the Philippines. A total of twenty-two candidates were successfully appointed and all had arrived and commenced their induction by October 1999.

This paper lays out the internal structure required to support an overseas recruitment pilot project – the planning, the pitfalls and the problems associated with the organisation of a project of this nature. Details will be examined of the development and implementation of an action plan incorporating project management, developing links with the agent, and the interview and selection process. The development of a post recruitment support programme for both successful candidates and established staff is also explored, concluding with an analysis of the project and presentation of its successful outcome.

Pregnancy outcomes in female renal transplant recipients

o66

E. Jovanović, M. Čalič
Nephrology Dpt, Clinical Medical Centre, Ljubljana, Slovenia.

The purpose of this study was to evaluate pregnancies and concepts outcome in kidney transplant recipients in a single transplant centre. Between 1975 and 1998, 75 female pts in childbearing age were transplanted and 16 of them (28%) underwent 25 pregnancies. Two pts had 3 pregnancies, 5 pts two and 9 pts had one pregnancy. Of the 25 pregnancies, seven (28%) resulted in surviving infants, one pregnancy (4%) in neonatal death and 17 pregnancies (68%) in spontaneous (2 pts) or elective (15 pts) abortion, seven of them for medical indication. The conception time after transplantation was 4 to 103 months. Among 6 pts with successfully terminated 7 pregnancies, 2 pts were treated with steroids and CyA, 3 pts with steroids, CyA and azathioprine and one pt with steroids and azathioprine. Serum-creatinine before pregnancy was 78–151 $\mu\text{mol/L}$ and 2 pts out of six were hypertensive. They delivered 7 babies in 29–37 weeks of pregnancy. Three babies had low birthweight 1900–2180 gr, in four babies birthweight was normal – 2700–3200 g. All babies were normal and healthy. Among 6 women who delivered surviving babies there were two women, who had become pregnant in 4 and 7 month after transplantation and one diabetic patient who delivered a healthy baby after two therapeutic abortions 50 months after transplantation. All mothers are still alive, four with sufficient graft function and two on haemodialysis 4,5 and 19 years after transplantation. We did not observe that pregnancy would cause graft loss within two years of delivery neither would abortion precipitate urinary tract infection.

Arterial flow in haemodialysis

168

I. Martinez, R. Bustamante, M. Tabares
Hospital Ramon y Cajal, Madrid, Spain.

INTRODUCTION: The ultrasonic transit time is the best present procedure to measure the arterial flow of the extracorporeal circuit. The aim of this work was to analyse the existing differences between the flow indicated by the dialysis monitor pump and the ultrasonic flow.

MATERIAL and METHODS: We have measured the ultrasonic flow in 20 patients treated with haemodialysis and dialysed through an arteriovenous fistule. The measurement of the ultrasonic flow was realized to three different flows of pump (300, 350 and 400 ml/min) in each dialysis session. This study was done in 9 consecutive dialysis sessions where needles of different diameter were used.

RESULTS: The ultrasonic flow is always lower than the flow indicated by the monitor pump: 265 ± 12 , 304 ± 15 and 341 ± 19 ml/min for the respective pump flows of 300, 350 and 400 ml/min (variability of -11.6, -13.1 and -14.8% respectively). The analysis of univariate regression showed that both the venous pressure ($r = -0.2679$, $p < 0.001$) and the arterial pressure of the extracorporeal circuit ($r = 0.6973$, $p < 0.001$) have influence on the ultrasonic flow. However, the multivariate analysis proved that only the arterial pressure has got predictive value.

CONCLUSIONS: The arterial flow prescribed in the dialysis monitor is always higher than the arterial flow measured by other procedures and this difference is determined by the negative arterial pressure of the extracorporeal circuit.

Significant reduction of delivered Kt/V by food intake during haemodialysis

o23

B. B. Prieto, S. de Pablos, M. S. J. Miguéwanz, S. Muñoz Pilar
F.R.I.A.T. Centro "Los Olmos", Segovia, Spain.

BACKGROUND: Urea kinetic modeling is a method for verifying that the amount of dialysis prescribed equals the amount of dialysis delivered. DOQUI algorithm helps to assess the causes of a low Kt/V: fistula integrity, treatment duration; methods of obtaining BUN samples, dialysis machine and patient specific variables.

OBJECTIVES: 1. To demonstrate relation between food intake during HD and measurement of Kt/V.

METHODS: Prospective study in 14 patients. We measured the amount of dialysis on the second of the week, with and without food intake during HD. HD prescription (blood flow, dialysate flow, dialyser, dry weight, heparin) was not changed. Statistical analysis was performed using: Paired T test.

CONCLUSIONS: 1. There was no significant change in PCR, TAC, IWG and URR with food intake. 2. There was a significant change in levels of Kt/V using Gotch formula and Dugirdas formula with food intake.

Do we give supplements to patients that need it?

182

C. J. M. Nagel, S. v. d. Giessen, M. Groenewold, T. Kok, A. Roelfsema, B. de Rouw
Dialyse Centrum Groningen, Groningen, The Netherlands.

In Groningen (NL) a group of renal dietitians give patients that are losing weight or have low albumin levels energy or protein supplements. We don't use protocols to do this and we started an investigation to ascertain whether we give supplements to the right people. We registered which haemodialysis pts received supplements. From these pts we collected the following data; gender, age, duration of dialysis, amounts of protein, sodium, potassium and fluid in their diet, KT/V, nPCR, Ideal Body Weight (IBW), Dry Weight (DW), amount of the diet supplement, 4 albumin and urea values just before the start of the dietary supplement. In the study 36 pts (14 men, 22 women) were included. We also had a control group. The mean age of the pts was 57 years. The mean duration of dialysis was 51 months. After having collected the data we divided the pts into four groups. Group 1: patients' weight had dropped. Group 2: patients had low serum albumin levels. Group 3: patients had both a low (or decreasing) weight and low albumin levels. Group 4: patients received supplements to prevent them from losing weight or having decreasing albumin values. The table shows values of albumin.

Albumin levels	Cases mean (SD)	Controls mean (SD)	P-value
Group 1 (low weight)	38,8 (2,3)	38,0 (3,7)	Ns
Group 2 (low albumin)	32,9 (3,7)	37,3 (3,1)	0,018
Group 3 (combination 1-2)	32,7 (5,6)	39,1 (1,8)	0,014
Group 4 (prevention)	35,6 (2,6)	38,7 (2,4)	0,08

We saw a significant difference between the group with a low albumin and the other groups ($p = 0,001$). We did not see significant differences in the urea values between the four groups and the controls. For the weight we looked at their EBW (determined as a BodyMassIndex (BMI) of 22,5) and their DW and we compared those two weights. When comparing the difference in those two weights the pts in the low weight group had a DW that was 6,7 kg (ranging from +3 kg to -14,5 kg) lower than their IBW, whereas the combined group had a DW that was 5,5 kg (ranging from +2 kg to -17,5 kg) lower than their IBW. Our conclusion was that we prescribe diet supplements in the right cases.

Founding of support groups for dialysed patients and their families: Our experience

199

E. Palmucci, E. Gentili, S. Scipioni, M. di Giantomasso
Ospedale Provinciale - Nefrologia e Dialisi, Macerata, Italy.

The haemodialysis is a traumatic experience which involves not only the physical aspects but also the emotional, affective social and working sphere. Furthermore it causes continual frustrations concerning the diet, liquid consumption and the sexlife.

The symbiosis of patient-machine and the situation which it creates is bound to produce a condition of mental suffering that compromises the interpersonal relationships and results in the manifestation of hypercritical attitudes sometimes followed, paradoxically, by hyper-co-operation towards the medical and paramedical staff.

In order to face and treat satisfactorily these aspects of the patient we founded, in our centre, a support group opened for the dialysed patients and their families. The group's management is entrusted to a doctor of the Dialysis Service, a social worker and a professional male nurse motivated to listening.

The aim of the monthly meetings is to give, thanks to recording the patients' experiences, an informative support based on a confrontation with both the disease and its consequences on the patient's life. Problems have come out because of the insufficient information supplied about the Dialysis' Therapy and because of the lack of psycho-social support that gives the possibility to face adequately such a radical change in life, a change which involves the family too.

The users' participation has been satisfactory. Everybody has shown a strong interest and there have been interventions and proposals aimed at improving the hospital stay and offering good support to each member of the group.

Water quality in home haemodialysis

191

J. G. Nijhof-Schutte, C. J. A. Mol
Dianet, Utrecht, The Netherlands.

Background: Water for dialysis should be checked for bacteria and Endotoxins on a regular basis. The presence of a reverse osmosis (RO) device normally guarantees an acceptable water quality. However, in home haemodialysis (HHD), the situation can be different. Firstly, patients use water which is supplied by different water companies. Secondly, the dialysis equipment and the RO machine are used infrequently, which can induce bacterial growth due to infrequent water circulation.

Methods: In order to test water quality the visiting nurse took samples of RO-water and dialysate of 60 HHD patients. The samples were stored in a cooler and transported to the laboratory immediately. All samples were cultured (TSA medium) and endotoxin concentrations (LAL) were measured. Results: See table below.

	Culture		Endotoxin concentration	
	< 100 CFU/ml	> 100 CFU/ml	< 0.25 IU/ml	> 0.25 IU/ml
RO water	60%	40%	90%	10%
Dialysate	75%	25%	98%	2%

We looked for a possible relation between bacteria counts and endotoxin concentrations. If the bacteria count was > 100 CFU/ml, we found in only 20% of the samples high endotoxin level > 0.25 IU/ml. However, when endotoxin concentrations were > 0.25 IU/ml, bacteria counts were in 80% > 100 CFU/ml.

Conclusions: Water quality may be poor when water is not circulating frequently through the water circuit and devices for dialysis and water treatment (as may be the case in HHD). A system should be designed in which water also circulates between dialysis sessions. Water quality should also be checked regularly in HHD. Endotoxin concentrations do not predict the existence of microbiological contamination very adequately.

Acute renal failure in diabetic patient with generalized candida mycosis

177

I. Prkačin, M. Sabljarić-Matovinović, N. Dabo, I. Palčić
Clinical Hospital "Merkur", Division of Nephrology, Zagreb, Croatia.

In recent years there has been an increase in the morbidity and mortality attributable to opportunistic fungal infections. The most frequently cited reason is an increased number of patients with "at risk factors" such as underlying disease (e.g., neoplasia, diabetes, renal disease, acidosis and human immunodeficiency virus infection).

In this case report the clinical course of a 41-year old man with insulin dependent diabetes mellitus (since 1986), congestive heart failure, and acute renal failure who developed mycotic sepsis due to *Candida albicans*, is described. He presented with a history of decreased mentation, abdominal and lumbar pain, and fever with numerous urinary complaints of 8-week duration. He reported cloudy urine, difficulty in voiding with dribbling and stranguria, nocturia and passage of small, whitish fragments from the urethra. Admission urine analysis revealed specific gravity of 1.030, protein 3+, glucose 2+, blood 2+. Numerous white and some red blood cells with fungi were seen. Serum chemistry findings included ESR 80, RBC 23, blood urea 17.9 mmol/l, creatinine 387 micromol/L, glucose 32, and creatinine clearance 0.6 ml/s. Urine and blood culture resulted in the growth of *Candida albicans*. His condition deteriorated rapidly. Serial imaging of the kidneys revealed oedematous kidneys with "membranes" within both ureters. On excretory urography, stenosis of right ureter was found, and ureterolysis with "T" prosthesis was performed. The patients condition improved slowly with antifungal therapy in high doses (fluconazole).

Body weight (BW) reduction in obese patients treated by peritoneal dialysis (PD)

184

J. C. M. Schreurs, W. H. Boer

Division of Rehabilitation and Nutritional Sciences and Department of Nephrology, University Medical Center, Utrecht, The Netherlands.

Obesity is common in patients treated by PD, glucose uptake from the dialysate being an important causative factor. Apart from general adverse effects of obesity, not getting accepted into a kidney transplant programme can be an additional consequence. In a pilot study we assessed the weight-reducing effect of a liquid Very Low Calorie diet (VLCD), combined with prescription of a polyglucose solution for the long dwell exchange. With glucose-containing dialysate, the amount of glucose being reabsorbed will be greatest in this period. Because polyglucose is hardly reabsorbed, a substantial reduced energy uptake can be expected by using this dialysate. Initially, all three meals were replaced by a VLC drink (160 kcal each) To improve the long term acceptance of the diet, a low fat dinner was allowed after significant initial weight loss had been obtained.

Pat. nr.	BW start PD (kg)	BW start VLCD (kg)	BMI start VLCD	BW end VLCD (kg)	BMI end VLCD	VLCD (days)
1	95	120	35	96	28	143
2	81	100	31	82	25	178
3	63	80	28	67	23	69

BMI: body mass index = $BW(kg)/height^2(m)$, VLCD: very low calorie diet.

The estimated daily reduction in energy uptake due to the diet and the polyglucose substitution was ~1100 kcal. The diet was well tolerated and no adverse biochemical effects were noted. However there are several caveats. First, the long term biochemical and nutritional effects of this regimen need assessment. Second, a reduced insuline dose should be anticipated in patients with insulin dependent diabetes mellitus. Finally, patients who do not lose weight "spontaneously" using this regimen should intermittently try to reduce BW by increasing ultrafiltration, as overhydration by inadvertent replacement of fat by water is a potential risk. In conclusion, our preliminary study suggests that considerable BW reduction can be obtained in obese PD patients by using a VLC diet combined with the use of a long dwell polyglucose solution.

Protein A immunoabsorption for treatment of nephrotic syndrome

154

S. Kovero (Reg.N), E. Selander (Reg.N), C.-G. Elinder (MD),

I. Fehrman-Ekholm (MD)

Huddinge University Hospital, Huddinge, Sweden.

Protein A immunoabsorption (IA) has been shown to reduce proteinuria in patients with nephrotic syndrome (NS) in focal and segmental glomerulosclerosis (FSGS) and in recurrence of NS after kidney transplantation. IA has also been used in the treatment of anti-GBM rapidly progressive glomerulonephritis and in acute humoral rejection of kidney transplants.

During the last year we have treated six patients with IA; age range from 7–62. Plasma, produced by plasmapheresis through a high flux membrane, was passed through a protein A column in an apparatus from Excorim®. The number of treatments per patient ranged from 3 to 13. As a rule three times the plasma volume of the patient passed through the IA columns at each treatment. There were no complications during or after the procedures.

In two cases we attempted to treat anti-GBM positive Goodpasture's syndrome and in one case acute humoral rejection after kidney transplantation but were not successful in any. Possibly the kidney damage had gone to far before the treatment was initiated as all three patients were oliguric. In two cases with immediate onset of a NS after kidney transplantation we saw a dramatic drop in proteinuria and normalisation of plasma albumin after the IA treatments and no recurrence has occurred after that.

Furthermore we have, for nine months, given monthly IA treatments to a 29-year old man with primary FSGS and steadily decreasing renal function. In this patient we have after initiation of IA observed clearly a slower progress of the FSGS than before the treatments.

It is concluded that IA seems to be a valuable therapeutic tool in the treatment of FSGS, before, as well as after kidney transplantation.

The geographical demands on the provision of a renal technical service

103

R. Sims

Southmead Hospital, Bristol, United Kingdom.

Our regional renal unit covers a geographical radius area of 96 kilometres, we cover inner city, urban and rural areas. The programme supports: one 18 station in-centre unit, 3 free standing satellite units at a minimum of 32 kilometres from the central unit. We also support approximately 60 patients dialysing within their own homes across the region. The day to day technical team comprises of four whole time equivalents.

There are significant issues to be addressed to provide an excellent maintenance and problem solving service for such a wide geographical area and to meet a wide variety of needs among each individual group. These include the use of dialysis machines from three different manufacturers and a significant range in both the age of the demand on the equipment. The three different machines are used throughout the programme. However, it has been identified that equipment used in the home for one patient, requires a very different service and maintenance schedule than equipment used in-centre and in the satellite units. Travelling time also has a significant relevance. We have been required to introduce a variety of quality control methods to overcome these problems.

The introduction of a computerised maintenance programme has enabled the generation of a two monthly work load analysis which ensures that all equipment is constantly maintained and to enable an anticipated service schedule to be established. Flexibility has been built into this process to ensure that unanticipated machine problems both in-centre, and in the community, can be dealt with quickly and efficiently.

Aspergillus infections among kidney transplant recipients

053

N. Strajnar, M. Obrovnik, M. Čalič

Nephrology Dpt, Clinical Medical Centre, Ljubljana, Slovenia.

Aspergillosis is usually a life-threatening opportunistic infection, which requires an early diagnostic confirmation and adequate therapy. The diagnosis of Aspergillus (Asp) infection may be difficult, because many patients have multiple complications and multiple simultaneous viral and bacterial infections. This study reviews Asp infections in 7 patients (1,99%) among 351 adult kidney transplant recipients, in the period September 1970 – September 1999. There were 6 males, 1 female, aged 34 – 56 years, treated with steroids and CyA, who developed Asp infection 3 months to 3 years after transplantation. Asp species was found by different diagnostic procedures: isolation and culture from BAL, bronchial, trans-bronchial and skin biopsy and trans-urethral prostatic resection, in 2 patients by autopsy. Localised forms of Asp infections (lung aspergilloma, prostatic and cutaneous infection) were found in 3 patients. These patients were treated with liposomal Amphotericine B (2 patients) and itraconazole (1 pt), and all patients were cured. In 4 patients systemic angioinvasive aspergillosis with central nervous involvement was diagnosed, in 2 of them post-mortem. All these patients died, 2 of them despite aggressive treatment with liposomal Amphotericine B. In 5 patients out of 7, multiple simultaneous viral (zoster, CMV) and bacterial pseudomonas, proteus, enterobacter, klebsiela) infections were detected.

In conclusion, the diagnosis of systemic angioinvasive aspergillosis in our patients was delayed and so was the therapy. Mortality was 100%. Localised forms were successfully treated.

Quality care and health improvement for child transplant recipients and their families

188

*E. Tornay Muñoz, F. García, J. Fijo, R. Hernández
University Hospital "Virgen del Rocío" Sevilla, Spain.*

Introduction: The absence or scarcity of appropriate information for chronic patients and caregivers generate anxiety and fears, that result in physical and psychological health distress. Health education is essential for this. General objective is to provide tranquillity and self-care knowledge for children with a transplanted kidney. The specific aim is to provide them with a care handbook written in structured and interesting language, as well as adapted to their cognitive level.

Methodology: It is a participatory research study. The patients and caregivers collaborated with their opinions and suggestions, this allowing for the elaboration and enhancement of the manual. From January 1996 to June 1999, 54 personalised manuals were delivered to our total number of patients between the ages of 3 and 18 years (from immediate post-transplant period up to 7 years with a renal transplant), who checked in our hospital. The analysis of data consisted of the following: half-addressed interviews and written open opinions.

Results: For the evaluation we categorised all the interviews and 50 open opinions (93%). This analysis shows that the handbook helped most of them (94%) to diminish their distress and fears providing them with tranquillity. For 98% of them, the language used was comprehensible.

94% use it as a consult and selfcare guide, improving their social, school and family life. 42% of them made suggestions that are now included in an enhanced handbook adapted to different ages. It additionally contains drawings that make it appear more attractive to our younger patients.

Conclusions: When patients and caregivers feel pro-active and that they are not alone in their illness process, therefore feeling secure; the treatment provided and selfcare are improved. This is a good basis and the key to the recovery and preservation of health, restoration of social, school and family life, to the achievement of a better quality of life. It is also useful for nurses to provide appropriate information and to unify criteria to promote appropriate and structured health education. The research is on-going to observe new requests, modify and evaluate possible changes that may appear. At the moment we have begun the diffusion and distribution of the handbook to other hospitals, patients and people who request it.

Coordination of ureteric stent removal by the transplant nurse

055

*C. Whittaker, R. Trevitt, E. A. Ball
Barts and the London Hospitals NHS Trust, London, United Kingdom.*

The placement of ureteric stents post transplant is common practice. Local policy was hospital admission for removal of stent at about twelve weeks post transplant, under general anaesthesia. Due to shortage of hospital beds, and pressure on waiting lists for surgery, the removal of stents was reviewed.

Stents can easily be removed under local anaesthetic, and after negotiation with a transplant/urology surgeon it was agreed that transplant stents would be removed in an outpatient flexible cystoscopy unit. This is organised by the transplant nursing team, who liaise with urology staff to arrange dates for removal of stents. Those patients with altered, complicated anatomy are discussed and arranged appropriately as inpatients. Prior to the procedure an X-ray of the abdomen is obtained to ensure the presence of a stent, then information is given by the transplant nursing team and consent is sought by the transplant registrar, who also prescribes antibiotic cover.

In 1998, 54 stents were placed at the time of transplant. 5 pts are not included in the data because of nephrectomy for early graft failure. 40 stents were removed within 15 weeks, 3/40 within 10 weeks due to UTI (bacterial/fungal). Of the remaining 9 stents, 5 were removed latter on clinical indication, 2 were delayed by pts, 1 patient refused removal except under GA cover, 1 was overlooked, (removed at 33 weeks). We only experienced complications in one pt (2%) due to unknown altered anatomy which required an overnight admission mid subsequent removal under GA. The removal of ureteric stents post transplant has been effectively incorporated into the transplant nursing team management, this has reduced the number of readmissions post transplant, decreasing the demand on inpatient beds as well as demand on surgical services. This change in practice has led to more effective use of resources and has delivered a more efficient service to our transplant recipients, negating the need for a hospital admission.



Authors Index

- A**
Abbott J. / 36, 47
Ahmad C. / 53
Ahmed C. / 40
Akçiçek F. / 48
Albaz N. / 50
Alonso R. / 54
Amadori B. / 36
Amoruso M. / 25
Andrea L. / 23
Andrew J. / 32
Aragno M. / 51
Argaman D. / 21
Arisnti A. / 32
Ashwanden C. / 21, 33
Athanasiou E. / 28
Attias M. / 35
- B**
Baker E. A. / 50
Ball E. A. / 21, 46, 52, 53, 59
Barrie J. / 22, 55
Bartram J. / 40
Başçı A. / 48
Belechri A. / 29
Bernart P. / 16
Beulens J. W. J. / 52
Bianchi L. / 22
Bibi A. / 54
Bijvoet A. J. / 36
Bocassini D. / 43
Boer W. H. / 58
Boeschoten E. W. / 39, 52
Brandiner Y. / 30
Brealy M. / 41
Brik D. / 21
Bubeniček P. / 41
Burt E. / 36
Bustamante R. / 56
- C**
Čalić M. / 44, 56
Čalić M. / 58
Cabello E. / 54
Cairns H. S. / 37
Calabrese A. / 51
Candido M. J. M. / 33
Carofei O. / 28
Case A. / 40
Cassidy A. / 47
Chamberlain H. / 35, 38, 51
Chivers G. / 26
Christopoulou S. / 54
Cigalina C. / 32
Cocco M. / 25
Codita M. F. / 54
Collier J. / 47
Coloretti A. / 25
Contrino S. / 22, 32
- D**
Dabo N. / 27, 57
Dahan D. / 22, 55
Davies D. / 31
de Franco F. / 51
de Leeuw M. / 23
de Pablos S. / 56
de Rouw B. / 57
de Vivo N. / 43
de Vos J.-Y. / 39, 43
de Vries J. H. M. / 52
de Wachter D. / 43
Degeatano R. / 43
Dekker F. W. / 39, 52
del Campo R. / 55
Denning L. / 37, 47, 48
Depner T. / 25
di Carlo A. / 32
di Giantomasso M. / 57
Doyle C. / 29
Dudley C. / 45
- E**
Edez-Repeto E. M. / 55
Edwards P. / 37, 45
Eggeling C. / 44
Eggenhuizen E. / 49
Egidi S. / 28
Eiselt J. / 34
Elinder C.-G. / 58
Ellis P. / 47
Ellis P. A. / 37
Erefe I. / 48
- F**
Fallon M. / 31
Fantuzzo A. / 32
Farré A. / 23
Fawkes H. / 22
Fedorowsky R. / 18
Feest T. / 45
Fehrman-Ekholm I. / 58
Ferrero S. / 51
Fijo J. / 59
FitzGerald L. / 21, 46, 53
Fitzgerald L. / 52
Flatau B. / 51
Fraleigh C. / 18
Fuller J. / 25
- G**
Galeotti P. / 28
Garcia E. / 23
García F. / 59
Gasso Bonvehí D. / 23
Gavish Z. / 19, 21, 30
Geenens M. / 39
Gelmez M. / 48
Gentili E. / 57
Giamalis P. / 29
Glyn E. / 45
Godigamuwe N. / 45
Gower T. / 41
Grassotti A. / 28
Groenewold M. / 57
Gülöksüz Y. / 50
- H**
Hallett S. / 20, 48
Hamersvelt H. W. / 49
Hamilton K. / 45
Harper S. / 45
Harris K. / 48
Harwood G. / 25
Hasseldecy Al. / 36
Hayes J. / 55
Heijnis G. / 49
Hernández R. / 59
Hettinga N. / 23
Hippold I. / 24
Hodnett T. / 49
Hoeke K. / 38
Hombrouckx R. / 39, 43
Hurst J. A. / 38
Husmann I. / 39
Huysmans F. Th. / 49
Hyde S. / 24
Hyslop G. / 19
- I**
Iaconianni C. / 51
- J**
Jackson A. / 19
Jackson H. S. / 41, 55
Jain N. / 45
James B. / 24
Jansen M. A. M. / 39
Janssen C. J. / 52
Järvinen T. / 16
Jeffrey M. / 56
Jenkins N. / 19, 45
Jeuken-Mertens S. / 33
Jovanović E. / 44, 56
Julien J. P. / 41
Jüngel P. / 24
- K**
Kakko A.-L. / 52
Karabatakis P. / 29
Karabetsou A. / 54
Karadeniz D. / 48
Kelly M. / 40, 53
Kennington S. / 38
Kepková A. / 34
Kesters L. / 25
Kirrikidou P. / 28
Kishimoto T. / 46
Kislukhin V. / 25
Knect A. / 27
Kok T. / 57
Kol Y. / 31
Korevaar J. C. / 39
Korzets A. / 18
Kotzadamis N. / 28
Kováříková A. / 34
Kovero S. / 58
Kracikova J. / 20
Krause R. / 38
Krediet R. T. / 39, 52
Kremenova E. / 20
Krivitski N. / 25
Krivosic J. / 53
Krupa B. S. / 16
Kuleisa B. / 38
- L**
Lap S. / 19, 30
Lappin L. P. / 49
Latja M. / 16
Lavanna S. / 25
Lear P. / 45
Lee R. / 51
Leleu L. / 39
Lethbridge Z. / 19, 20, 48
Leypziger B. / 31
Lipsky V. / 27
Llata M. / 54
Lunts Ph. / 25, 49
Lutters W. / 33
- M**
Macdonald J. / 39
Maclean M. / 26
Maes B. / 25
Mäkinen A. / 16
Maloney D. / 26
Manrique M. P. / 32
Marczewski K. / 26
Maroix L. / 31
Marron B. / 32
Martinez A. / 26
Martinez Delgado J. M. / 55
Martinez I. / 56
Marzougui H. / 43
Mathieson P. / 45
Mayer C. / 46
McGee G. / 26
Mehmedovic N. / 50
Meister G. / 30
Meldrum E. / 38
Memmos D. / 28, 29
Mengerová O. / 41
Mesic E. / 50
Mienert K. / 38
Miguewanz M. S. J. / 56
Milo E. / 22, 55
Milosevic M. / 53
Minisini L. / 32
Mistiaen P. / 36
Mitsopoulos E. / 28
Mödel Gort J. / 23
Mol C. J. A. / 57
Moltó I. / 34
Moore M. / 24
Mouloupoulou E. / 28
Mróz A. / 26
Muñoz Pilar S. / 56
Munz P. / 34
Murphy A. / 20
Murray B. / 27
Murray E. P. / 42
Myster G. / 19
- N**
Naaman S. / 18
Nagel C. J. M. / 57
Nakahara N. / 46
Nakatani T. / 46
Nelson K. / 20
Nemcova M. / 20
Nenaydenko J. / 27
Nermutova L. / 20
Nijhof-Schutte J. G. / 57
Nijman B. G. / 39
Novais M. E. L. / 33
Nuriely B. / 18
- O**
Obrovnik M. / 58
Ormandy P. / 39
Owen S. M. / 50
Özdemir D. / 50
Özkan Z. / 50
- P**
Paakkonen R. / 52
Padroni V. / 22
Palčić I. / 27, 57
Palmucci E. / 57
Pancifová J. / 27
Pancirova J. / 20
Pansini S. / 43
Papathanassiou E. A. / 54
Paris V. / 31
Parris P. / 26
Pedullá A. / 28
Perico N. / 31
Piga R. / 51
Pinel D. / 32
Polymeri G. / 28, 29
Price J. / 51
Prickett J. / 41
Prieto B. B. / 56
Prkačin I. / 27, 57
Pulido A. / 23
- Q**
Quadri S. / 31
- R**
Randhawa G. / 39
Raparelli R. / 22
Ravid K. / 30
Ready A. R. / 45
Remuzzi G. / 31
Reuselaars M. C. / 52
Riboli B. / 31
Rivett M. / 16
Robinson H. / 39
Roček M. / 17
Roelfsema A. / 57
Rojo M. / 54
Roma Millan J. / 23
Rosano L. / 51
Rotas B. / 55
Ruddock N. / 42
- S**
Švandrlíková M. / 34
Sabljarić-Matovinović M. / 27, 57
Sachtaridou M. / 28
Sanfratello E. / 25
Sarafi E. / 28
Sasaki C. / 46
Satriani M. / 28
Schalzo A. / 32
Schablegger H. / 46
Schreurs J. C. M. / 52, 58
Schwartz N. / 29
Scipioni S. / 57
Selander E. / 58
Shani V. / 27
Scuranza C. / 51
Sieggers G. / 34
Simoyi P. / 29
Sims B. / 26
Sims R. / 58
- N**
Slatopolsky E. / 17
Smitherman R. / 21
Smolander N. / 52
Snyder J. / 25
Soler Amigó J. / 23
Soni R. / 20
Spencer D. / 26
Spirou S. / 54
Stacey S. / 55
Stagier A. / 28
Stragier A. / 44
Strajnar N. / 44, 58
Struyven J. / 28
Sussmann K. / 42
- T**
Tabares M. / 56
Takemoto Y. / 46
Taratufolo A. / 28
Tas-de Haas S. / 37
Tasoula R. / 28
Teplan V. / 41
Tesci N. / 50
Thorn P. / 32
Tibbles R. / 35
Tomson C. / 45
Tornay Muñoz E. / 59
Tounis S. / 28
Traeger H. / 44
Trevitt R. / 21, 46, 52, 53, 59
Tsakiris D. / 28
Tulleuda Lari L. / 23
Turi E. / 43
Tzekas Z. / 28
- V**
v. d. Giessen S. / 57
v. Sandwyk S. / 34
Vadori M. / 51
Vagiatos L. / 28
van Venrooij L. M. W. / 52
Vandenbempt W. / 25
Vanpeltcom J. / 17
Vanrenterghem Y. / 25
Vass C. D. / 29
Viljoen K. / 17
Viscardi I. / 31
Visser R. / 52
Vitri N. / 35
Vlaminck H. / 25
- W**
Wagner R. / 29
Wallin L. / 18
Walwyn L. / 51
Warrilow J. / 29
Watkins T. / 50
Weir C. / 20
Wenderickx D. / 28, 44
White B. / 23
Whittaker C. / 21, 46, 52, 53, 59
Wilde C. / 35
Wilkinson H. / 27, 39
Wille B. / 18
Willis C. / 40, 48, 54
Wittich E. / 30
- Z**
Zolota A. / 29
Zudaire M. / 54
Zugic V. / 53
Zur E. / 19, 30