



**CANADIAN SOCIETY OF NEPHROLOGY  
SOCIÉTÉ CANADIENNE DE NÉPHROLOGIE**

**PROGRAM/PROGRAMME  
ANNUAL MEETING/L'ASSEMBLÉE ANNUELLE  
MAY 10-13, 2009/10-13 MAI 2009**

**The 41st Annual Meeting**

*in collaboration with/  
en collaboration avec*

**The Canadian Association of Pediatric Nephrologists /  
L'Association des néphrologues pédiatriques du Canada**

**and/et**

**The Canadian Organ Replacement Registry**

**and/et**

**The Renal Pharmacists Network**



**Westin Edmonton Hotel  
Edmonton, Alberta**

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## SCHEDULE OF EVENTS

<b>Sunday, May 10</b>	<b>Pages 12-18</b>	<b>Location</b>	<b>Time</b>
CAPN Educational Forum		Turner Valley	07:00-09:00
CME Half Day		Manitoba/Saskatchewan	08:00-12:30
RPN Round Table Discussion		Leduc	12:00-15:00
CORR Annual Meeting		Manitoba/Saskatchewan	12:30-13:30
<b>Commence CSN Annual Scientific Meeting</b>			
State of the Art Lectures		Manitoba/Saskatchewan	13:30-14:30
Top Trainee Presentations		Manitoba/Saskatchewan	15:00-17:00
RCPSC Sub Committee Meeting		Director	17:00-19:00
Welcome Reception with Corporate Sponsors		Foyer, Westin Edmonton	17:15-19:00
Satellite Symposium/ Dinner <i>Sponsored by AMGEN &amp; KFoC</i>		Centennial	19:00 -22:00
<b>Monday, May 11</b>	<b>Pages 19-26</b>	<b>Location</b>	<b>Time</b>
CSN Executive & Platinum Sponsor Meeting		Leduc	07:00-08:00
Royal College Subspecialty Committee		Director	07:00-10:30
PD Guidelines Meeting		Consulate	07:00-09:00
Poster SetUp		BC/Alberta/Yukon	07:00-09:00
KFoC 2008 Medal for Research Excellence Presentation		Manitoba/Saskatchewan	08:30-09:45
Concurrent Sessions:			
Free Communications: Basic Science		Turner Valley	10:00-12:30
Free Communications: Clinical		Manitoba/Saskatchewan	10:00-12:30
Challenging Consults		Turner Valley	12:30-14:00
Concurrent Symposia:			
Basic Science		Turner Valley	14:00-15:30
Clinical		Manitoba/Saskatchewan	14:00-15:35
Poster Viewing Session (Authors Present)		BC/Alberta/Yukon	15:30-17:00
CSN Annual Business Meeting		Manitoba/Saskatchewan	17:00-18:30
CSN Gala Dinner & Awards		The Fairmont Hotel MacDonald	
		Cocktails	18:30
		Dinner	19:30
		<b>Auction</b>	<b>21:30</b>

## SCHEDULE OF EVENTS

<b>Tuesday, May 12</b>	<b>Pages 27-30</b>	<b>Location</b>	<b>Time</b>
CSN Education Committee Meeting		Consulate	07:00-10:00
Therapeutics Forum		Manitoba/Saskatchewan	08:30-10:30
Education Forum		Manitoba/Saskatchewan	10:30-12:00
Debate		Manitoba/Saskatchewan	12:00-13:00
Annual Review Course			
Registration		Foyer	11:00-13:00
Lectures		Devonian	13:00-15:45
Workshops		Devonian	16:00-17:30
		Consulate	16:00-17:30
		Chancellor	16:00-17:30
		Leduc	16:00-17:30
		Turner/Valley	16:00-17:30

<b>Wednesday, May 13</b>	<b>Page 31</b>	<b>Location</b>	<b>Time</b>
Annual Review Course			
Lectures		Devonian	08:00-10:00
Workshops		Devonian	10:30-14:30
		Consulate	10:30-14:30
		Chancellor	10:30-12:00
		Leduc	10:30-14:30
		Turner Valley	10:30-14:30

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SOCIÉTÉ CANADIENNE DE NÉPHROLOGIE**

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# ***CANADIAN SOCIETY OF NEPHROLOGY SOCIÉTÉ CANADIENNE DE NÉPHROLOGIE***

The CSN 2009 Annual Meeting consists of the following components:

- ❖ Continuing Medical Education (CME) Half Day (May 10th)
- ❖ Annual Scientific Meeting (Afternoon, May 10<sup>th</sup>, May 11<sup>th</sup> & 12<sup>th</sup> )
- ❖ Satellite Symposium (Evening, Sunday, May 10<sup>th</sup> )
- ❖ Review Course (Afternoon, May 12<sup>th</sup> & May 13<sup>th</sup> )

The Planning Committee for the CSN 2009 Annual Meeting consisted of the CSN Education Committee:

## **CSN Education Committee**

Dr. Barbara Ballermann

Dr. Andrew Steele

Dr. Martin Bitzan

Dr. Edwin Toffelmire

Dr. Ellen Burgess (Chair)

Dr. Jordan Weinstein

Dr. Mark Courtney

Dr. Verna Yiu

Dr. Jolanta Karpinski

Dr. Tewfik Nawar

# ***CANADIAN SOCIETY OF NEPHROLOGY SOCIÉTÉ CANADIENNE DE NÉPHROLOGIE***

## **MISSION STATEMENT**

- To promote the highest quality care for patients with renal diseases by setting high standards for medical training and education and to increase the knowledge, skills and attitudes of nephrologists.
- To encourage research in biomedical sciences related to the kidney, kidney disorders and renal replacement therapies.
- To improve the delivery of health care related to nephrology.
- To promote the continuing professional competence of nephrologists.
- To encourage and support scholarly and ethical approaches to the enhancement of the specialty.

### **To achieve its mission, the Canadian Society of Nephrology will do the following:**

- Boldly promote facilities and budgets to care for all Canadians with kidney disease.
- Establish efficient and effective strategies for the maintenance of competence of nephrologists in collaboration with other organizations.
- Encourage and support effective teaching of post-graduate trainees.
- Provide a strong voice of cohesive force for nephrologists as they relate to the public interest with respect to the provision of nephrological medical care.
- Strongly support adequate facilities and budgets for research in renal physiology, renal diseases and treatment modalities for renal disease.

# CSN / KIDNEY FOUNDATION FELLOWSHIP AWARDEES

The Kidney Foundation of Canada would like to thank the membership of the Canadian Society of Nephrology for their contribution to the Foundation's Fellowship Program.

This support has enabled the funding of the following Fellows.

## Biomedical Fellowships

Recipient: Dr. Ana Konvalinka  
University of Toronto

Project: *Predicting outcomes in primary glomerular-based diseases*

Supervisors: Dr. James Scholey and Dr. Daniel Cattran

Recipient: Dr. Jeffrey Perl  
Toronto General Hospital

Project: *Dialysis after graft loss: peritoneal dialysis offer a survival benefit over hemodialysis*

Supervisor: Dr. Sarbjit Vanita Jassal

## KRESCENT AWARDEES 2009

KRESCENT is a national kidney research training program, founded and supported by the CSN, The Kidney Foundation of Canada, and the CIHR (Institutes of Nutrition, Metabolism and Diabetes and Circulatory and Respiratory Health). The CSN is very pleased to announce the following awardees for the KRESCENT 2009 competition:

### *Post Doctoral Fellowship*

**Recipient:** Dr. Geneviève Benoit  
Hôpital Necker Enfants Malades, Paris

**Supervisor:** Prof. Corinne Antignac

**Title:** *Identification des genes et caractérisation de proteins impliqués dans le syndrome néphrotique cortico-résistant*

**Recipient :** Dr. Dylan Burger  
University of Ottawa

**Supervisor:** Dr. Rhian Touyz

**Title:** *Role of epidermal growth factor ligands in microparticle signaling during hypertension*

**Recipient:** Dr. Sacha De Serres  
Brigham and Women's Hospital, Boston

**Supervisor:** Dr. Nadar Najafian

**Title:** *Assessment of regulatory CD4+CD25+ and alloreactive T cells in the appraisal of immunosuppressive status in renal transplant recipients*

**Recipient:** Dr. Ghada Kurban  
University Health Network, Toronto

**Supervisors:** Dr. Brenda Gallie and Dr. Michael Jewett

**Title:** *Mechanisms driving progression of small renal masses to advanced renal cell carcinoma*

# KRESCENT AWARDEES 2009

## *Post Doctoral Fellowship*

**Recipient:** Dr. Mona Sedeek  
University of Ottawa

**Supervisors:** Dr. Rhian Touyz and Dr. Richard Hébert

**Title:** *Role of NOX4 in the development of diabetic nephropathy in a model of type II diabetes*

## *New Investigator Award*

**Recipient:** Dr. Todd Alexander  
University of Alberta

**Title:** *Molecular mechanisms mediating coordinated proximal tubular sodium, calcium, bicarbonate and water absorption*

## 2009 COMMITTEE MEETINGS

### Saturday, May 9<sup>th</sup>

CSN Executive Meeting	Manor Cafe 10109-125 <sup>th</sup> St., Edmonton	13:00
CAPN Meeting	Centennial	17:00-18:00
CSN Council Meeting	Strathcona	18:00-23:00
Palliative Care Meeting	Consulate	19:00-21:30
CAPN Dinner	Chancellor	20:00-23:00

### Sunday, May 10<sup>th</sup>

CAPN Education Forum	Turner Valley	07:00-09:00
RPN Roundtable Discussion	Leduc	12:00-15:00
RCPSC Subcommittee Meeting	Director	17:00-19:00

### Monday, May 11<sup>th</sup>

CSN Executive & Platinum Sponsor Meeting (Breakfast)	Leduc	07:00-08:00
Royal College Subspecialty Committee Meeting	Director	07:00-10:30
PD Guidelines Committee Meeting	Consulate	07:00-10:15
HD Physicians Meeting	Consulate	12:30-14:00
London HSC Sub Group	Director	13:00-17:00
CSN Annual Business Meeting	Manitoba/Saskatchewan	17:00-18:30

### Tuesday, May 12<sup>th</sup>

Education Committee Meeting	Consulate	07:00-11:00
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## **Sunday, May 10**

7:00-08:00	<b>Continental Breakfast</b>	<b>Foyer</b>
7:00-09:00	CAPN Education Forum	<b>Turner Valley Rm</b>
<b>08:00-12:30</b>	<b>CME Half Day</b>	<b>Manitoba/Saskatchewan</b>
8:15-08:30	Welcome - <b>Dr. Barbara Ballermann</b>	
	<b>Chairs: Dr. John Chan and Dr. Brendan Barrett</b>	
	<b>Session 1: The Role of Uric Acid in Human Hypertension</b>	
8:30-08:50	Case-Based Discussion of Urate Metabolism <b>Dr. Mitchell Halperin, University of Toronto</b>	
	Objectives:	
	<ul style="list-style-type: none"><li>❖ To illustrate that urate in plasma has valuable properties, as it acts as an antioxidant.</li><li>❖ To illustrate how to define the basis for a low circulating level of urate.</li><li>❖ To illustrate the change of importance of urate in the urine as compared to the plasma.</li></ul>	
8:50-09:00	Questions/Discussion	
9:00-09:20	SC9a2: Newly Identified Urate Transporter in Humans: A Link to Human Hypertension? <b>Dr. Chris Cheeseman, University of Alberta</b>	
	Objectives:	
	<ul style="list-style-type: none"><li>❖ The relationships within the gene family of facilitated hexose transporters (SLC2A).</li><li>❖ Findings from a series of population gene scans relating point mutations in SLC2A9 to alterations in plasma urate concentrations.</li><li>❖ The functional characterization of GLUT9 as a hexose transporter.</li><li>❖ Recent functional studies indicating that urate is a substrate for GLUT9.</li><li>❖ A proposed role for GLUT9 in the apical membrane of the human renal proximal convoluted tubule (PCT) as a route for urate secretion.</li><li>❖ A proposed role for GLUT9 in the basolateral membrane of the human PCT as the final path for urate reabsorption.</li></ul>	
09:20-09:30	Questions/Discussion	
09:30-09:50	Hyperuricemia: A Causal Link to Human Hypertension? <b>Dr. Mark Segal, University of Florida</b>	
	Objectives:	
	<ul style="list-style-type: none"><li>❖ Understand the epidemiological link between uric acid and hypertension.</li><li>❖ Understand the mechanistic link between uric acid and hypertension.</li><li>❖ Understand how various blood pressure agents affect uric acid levels.</li></ul>	
09:50-10:00	Questions/Discussion	
10:00-10:30	<b>Coffee Break</b>	<b>Foyer</b>

This CME/CPD Program is a CSN-approved Group Learning Activity (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada

## **Sunday, May 10**

08:00-12:30

**CME Half Day**

**Manitoba/Saskatchewan**

**Chairs: Dr. Neesh Pannu and Dr. Jacequeline Ho**

### **Session 2: Acute Kidney Injury (AKI)**

10:30-10:50

Emerging Biomarkers for the Evaluation of AKI

***Dr. Prasad Devarajan, University of Cincinnati College of Medicine***

Objectives:

- ❖ Identify the need for better biomarkers of AKI.
- ❖ Identify the role of emerging biomarkers for the early diagnosis of AKI and its outcomes.
- ❖ Identify critical next steps for validation of AKI biomarkers.

10:50-11:00

Questions/Discussion

11:00-11:20

Renal Support for the Critically Ill Patient

***Dr. Sean M. Bagshaw, University of Alberta***

Objectives:

- ❖ Provide an overview of the spectrum of disease processes (in addition to acute kidney injury) where initiation of renal support has an adjuvant role.
- ❖ Provide an overview of clinical factors associated with initiation of renal support in critically ill patients.

11:20-11:30

Questions/Discussion

11:30-11:50

What is the Optimal Prescription for Renal Replacement Therapy in Acute Kidney Injury?

***Dr. Ron Wald, University of Toronto***

Objectives:

- ❖ To describe the current evidence for the determination of renal replacement therapy modality in acute kidney injury.
- ❖ To review recent trials that guide decisions regarding the dose of renal replacement therapy in acute kidney injury.
- ❖ To discuss the role of convective versus diffusive clearance modes in acute kidney injury.

11:50-12:00

Questions/Discussion

12:00-12:20

The Role of the Renal Acute Phase Response in Acute Kidney Injury

***Dr. Thomas Mueller, University of Alberta***

Objectives:

- ❖ Appreciation that the kidney organ itself generates an acute phase response.
- ❖ Demonstration that the transcriptome is a robust measure of the degree of kidney injury and quality.
- ❖ Illustration of the relation between inflammation and kidney disease progression.
- ❖ Discussion of the relevance of the renal acute phase response on short and long term outcome.

12:20-12:30

Questions/Discussion

12:00-15:00

**RPN Roundtable Discussion**

**Leduc**

12:30 -13:30

**Box Lunch**

**Foyer**

## **Sunday, May 10**

12:30 – 13:30

**CORR Report to CSN**

**Manitoba/Saskatchewan**

**Chair: John S. Gill, M.D., MS**

Objectives:

- ❖ To update the members on CORR/CIHI activities for the past year.
- ❖ To provide the membership with CORR data highlights and presentations using CORR data.

### **AGENDA**

1. Welcome and Call to Order
2. Review of Minutes of AGM – March 2009 CST
3. President's Report – **Dr. John Gill**
4. Special Presentations
  - 2008 CORR Data Highlights – **Dr. Joanne Kappel – Past President**
  - Comorbidity Validation Study – **Dr. Louise Moist – Vice-President**
  - Status of Organ Donation in Canada – **Dr. John Gill**
5. Location of Next AGM
6. Questions/Closing Remarks/Adjournment

13:30

**CSN Annual General Meeting**

**Manitoba/Saskatchewan**

**13:30–14:30 State of the Art Lectures**

**Chairs: Dr. Barbara Ballermann and Dr. James Barton**

13:30-14:00

Clinical Efficacy of Adult Stem Cell Therapy in Acute Kidney Injury (AKI)  
**Dr. H. David Humes, University of Michigan School of Medicine**

Objectives:

- ❖ Pathophysiology of Acute Kidney Injury resulting in acute renal failure (ARF) and multi-organ failure.
- ❖ Clinical relevance of renal adult stem cell therapy in ARF.
- ❖ Innovative membranes to duplicate the results of renal cell therapy.

14:00-14:30

ACE-2: Implications for Blood Pressure and Kidney Disease  
**Dr. Julie Ingelfinger, Harvard Medical School**

Objectives:

- ❖ To describe current understanding of ACE-2 and how it has changed concepts about the rennin-angiotensin system (RAS).
- ❖ To present data supporting the role of ACE-2 in the development and course of hypertension and renal diseases.
- ❖ To discuss ways to target ACE-2 in the therapy of cardiorenal diseases.

14:30–15:00

**Coffee Break**

**Foyer**

**Sunday, May 10**

The Canadian Society of Nephrology would like to thank *Ortho Biotech*  
for their generous financial support of the Trainee Awards

15:00 – 17:00 Top Trainee Presentations Manitoba/Saskatchewan

Chairs: Dr. Norm Rosenblum and Dr. William Clark

For all presentations of research the following are the objectives:

- ❖ To familiarize oneself with recent information from clinical and basic research related to kidney biology and disease.
- ❖ To identify how this new knowledge might impact on one's professional activities.

***The top trainee presentations will be adjudicated by a panel. Awards will be presented at the CSN Annual Gala Dinner.***

15:00 **Ngam Lam** #001

**IMPACT OF A RANDOMIZED CONTROLLED TRIAL ON STATIN USE IN DIALYSIS PATIENTS.**

Ngam Lam, Arsh K. Jain, Dan G. Hackam, Meaghan Cuerden, Rita Suri, Cindy Huo, Ping Li, William F. Clark, Amit X. Garg. University of Western Ontario, London, ON, Canada; University of Western Ontario, London, ON, Canada; University of Western Ontario, London, ON, Canada; Institute for Clinical Evaluative Sciences, Toronto, ON, Canada

15:15 **Nicolas Godin** #002

**CATALASE OVEREXPRESSION UP-REGULATES ANGIOTENSIN CONVERTING ENZYME-2 EXPRESSION AND PREVENTS HYPERTENSION, ALBUMINURIA, TUBULOINTERSTITIAL FIBROSIS AND TUBULAR APOPTOSIS IN ANGIOTENSINOGEN-TRANSGENIC MICE.**

Nicolas Godin, Fang Liu, Cara J. Lau, Garnet J. Lau, Marie-Luise Brezniceanu, Isabelle Chenier, Janos G. Filep, Julie R. Ingelfinger, Shao-Ling Zhang, John S.D. Chan. CRCHUM-Hotel Dieu, Montreal, QC, Canada; Maisonneuve-Rosemont Hosp., Montreal, QC, Canada; Mass. Gen. Hosp., Boston, MA

15:30 **Arsh Jain** #003

**RANDOMIZED TRIALS IN PERITONEAL DIALYSIS: CANADA'S CONTRIBUTION AND FUTURE OPPORTUNITY.**

Arsh K. Jain, Arthur Iansavitchous, Matthew Weir, Peter Blake, John Johnson, Robert Yang, Amit Garg. University of Western Ontario, Canada; McMaster University, Canada

## Sunday, May 10

15:00 – 17:00 Top Trainee Presentations

Manitoba/Saskatchewan

Chairs: Dr. Norm Rosenblum and Dr. William Clark

15:45

**Ada Chung**

**#004**

**DIALYSIS ACCELERATES ACTIVATION OF MATRIX METALLOPROTEINASE-2 WHICH CONTRIBUTES TO ARTERIAL STIFFENING AND VASOMOTOR DYSFUNCTION IN PATIENTS WITH CHRONIC KIDNEY DISEASE.**

Ada Chung, Clarice Yang, Jong Moo Kim, Mhairi Sigrist, Elliott Chum, William Gourlay, Adeera Levin. University of British Columbia, Canada; University of British Columbia, Canada; University of British Columbia, Canada

16:00

**Erin M. Stitt-Cavanagh**

**#005**

**A MALADAPTIVE ROLE FOR THE PROSTAGLANDIN E2 EP4 RECEPTOR IN GLOMERULAR DISEASE.**

Erin M. Stitt-Cavanagh, Wissam Faour, Kaede Gomi, André Schneider, YouFei Guan, Matthew Breyer, Barbara Vanderhyden, Christopher R.J. Kennedy. Ottawa Health Research Institute, Ottawa, ON, Canada; University of Ottawa, Ottawa, ON, Canada; Vanderbilt University, Nashville, TN; University of Fribourg, Fribourg, Switzerland

16:15

**T.N. Petruzellio**

**#006**

**ACTIVATION OF THE CXCR4/CXCR7/SDF-1 PATHWAY CONTRIBUTES TO E. COLI VEROTOXIN PATHOGENESIS.**

T.N. Petruzzello, C.C. Matouk, D. Wong, J.E. Fish, M. Khan, A.M. Soltyk, B.M. Steer, J.L. Brunton, P.A. Marsden. University of Toronto, Canada; University of Toronto, Canada; University Health Network, Toronto, Canada; St. Michael's Hospital, Toronto, Canada

16:30

**Valerie Bloomfield**

**#007**

**GLOBAL TRENDS IN THE USE OF PERITONEAL DIALYSIS: A DEVELOPING STORY.**

Valerie Bloomfield, Arsh Jain, Peter Blake, Peter Cordy, Amit Garg. London Health Sciences Center, London, ON, Canada

16:45

**Navdeep Trangri**

**#008**

**PREDICTING MORTALITY IN INCIDENT DIALYSIS PATIENTS: AN ANALYSIS OF THE UNITED KINGDOM RENAL REGISTRY.**

Martin Wagner, David Ansell, David Kent, Christoph Wanner, Navdeep Tangri. Tufts Medical Center, Boston, MA; United Kingdom Renal Registry, Bristol, United Kingdom; Tufts Medical Center, Boston, MA; University Hospital Wuerzberg, Wuerzberg, Germany

**Sunday, May 10**

17:00 – 19:00 RCPSC Sub-Committee Meeting

Director Room

17:15 - 19:00

Welcome Reception with Corporate Sponsors

Foyer  
Westin Edmonton Hotel

The Canadian Society of Nephrology gratefully acknowledges support for the  
Satellite Symposia from  
*AMGEN Canada Inc. and The Kidney Foundation of Canada*  
This event is a CSN co-sponsored Group Learning Activity

## CSN 2009 Satellite Symposium

*Sponsored by AMGEN Canada Inc. & KFoC*

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### Raising Our Sights.... New Direction for the Future of Kidney Care

*Kathryn Richardson*  
*Vice-President and Incoming President*  
*The Kidney Foundation of Canada*

*Dr. Darren Yuen, M.D.*  
*St. Michael's Hospital, Toronto*  
*AMGEN-KRESCENT Joint Fellow*

*Susan Storey*  
*Senior Director of Development*  
*The Kidney Foundation of Canada*

*Paul Shay*  
*National Executive Director*  
*The Kidney Foundation of Canada*

#### Objectives:

- ❖ Introduce the new leadership of The Kidney Foundation of Canada (KFoC); and foster a shared understanding of the objectives and progress of the KFoC Leading Change Strategic Plan.
- ❖ Identify the direct and tangible impact of the KRESCENT program as well as its potential to advance the renal community and to emerge as the model for new generations of basic and clinical researchers in Canada.
- ❖ Share details on the KFOC's ***Campaign for Kidney!***, a nation-wide plan to advance public awareness of kidney disease and to mobilize financial and human resources to enhance research, prevention and core services.
- ❖ Highlight the Foundation's priority for an expanded culture of partnership and engagement within the renal community and ways in which health care professionals and the CSN can become involved in our efforts to mobilize government, patients and the general public to become active participants in the ***Campaign for Kidney!***

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Date: Sunday, May 10<sup>th</sup>

Time: 19:00 – 22:00

Where: Centennial Room, The Westin Edmonton Hotel

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## **Monday, May 11**

7:00 – 8:00	CSN Executive & Platinum Sponsor Meeting (Breakfast)	<b>Leduc Room</b>
7:00 – 8:30	<b>Continental Breakfast</b>	<b>Foyer</b>
7:00 – 10:30	Royal College Subspecialty Committee Meeting Chair: Dr. Verna Yiu (Breakfast)	<b>Director Room</b>
7:00-10:15	PD Guidelines Meeting (Breakfast)	<b>Consulate Room</b>
7:00-9:00	<b>Poster Setup</b>	<b>BC/Alberta/Yukon</b>
8:30 – 9:45	Kidney Foundation of Canada 2008 Medal for Research Excellence Presentation  Little Kidneys, Big Problems <b>Dr. Paul Goodyer, McGill University</b>  Objectives: ❖ Participants will be made aware that many people are born with suboptimal nephron number, due to variation in genes and environmental factors which control nephrogenesis during fetal life.	
9:45 – 10:00	<b>Coffee Break</b>	<b>Foyer</b>
10:00-12:30	<b>CONCURRENT SESSIONS</b>  <b>Clinical</b>	<b>Manitoba/Saskatchewan</b>
	<b>FREE COMMUNICATIONS – CLINICAL</b> <b>Chairs: Dr. Catherine Clase and Dr. Sofia Ahmed</b>	
10:00	<b>Brendan Barrett</b>  <b>NOT ALL CKD PATIENTS NEED TO SEE A NEPHROLOGIST. LESSONS FROM THE CAN-PREVENT TRIAL.</b> Brendan Barrett, Amit Garg, Adeera Levin, Steven Soroka, George Soltys, Anita Molzahn, Joel Singer, Ron Goeree, Claudio Rigatto, Patrick Parfrey. Memorial University of Newfoundland, Canada; Dalhousie University, Canada; University of Western Ontario, Canada; University of British Columbia, Canada; University of Alberta, Canada; Hopital Charles LeMoyné, Canada; University of Manitoba, Canada; McMaster University, Canada	<b>#009</b>
10:15	<b>Adeera Levin</b>  <b>SEX MATTERS: WOMEN WITH CKD HAVE SLOWER PROGRESSION AND SIMILAR SURVIVAL COMPARED TO MEN DESPITE LOWER GFR AT TIME OF REFERRAL.</b> Adeera Levin, Lee Er, Monica Beaulieu, Paul Taylor, Ognjenka Djurdjev. University of British Columbia, Canada; BC Provincial Renal Agency, Canada	<b>#010</b>

**Monday, May 11**

10:00-12:30      **CONCURRENT SESSIONS**      **Manitoba/Saskatchewan**

**Clinical**

**FREE COMMUNICATIONS – CLINICAL**

**Chairs: Dr. Catherine Clase and Dr. Sofia Ahmed**

10:30      **Catherine Clase**      **#011**

**LOW-INTENSITY ADJUSTED-DOSE WARFARIN FOR THE PREVENTION OF MECHANICAL MALFUNCTION OF DOUBLE-LUMEN HAEMODIALYSIS CATHETERS: A RANDOMIZED CONTROLLED TRIAL.**

Catherine M. Clase, Mark A. Crowther, Trevor J. Wilkieson, Steven D. Soroka, Kailash K. Jindal, Ryuta Nagai, Alistair J. Ingram. McMaster University, Hamilton, ON, Canada; McMaster University, Hamilton, ON, Canada; Dalhousie University, Halifax, NS, Canada; Niagara Health System, St Catharines, ON, Canada; University of Alberta, Edmonton, AB, Canada

10:45      **Jean Philippe LaFrance**      **#012**

**ACUTE KIDNEY INJURY AND LONG-TERM MORTALITY ADJUSTING FOR RESIDUAL KIDNEY FUNCTION.**

Jean-Philippe Lafrance, Donald R. Miller. Boston University; Bedford VAMC

11:00      **Michael Walsh**      **#013**

**PLASMA EXCHANGE IN ANCA ASSOCIATED VASCULITIS: A SYSTEMATIC REVIEW AND META-ANALYSIS.**

Michael Walsh, Wladimir Szpirt, Fausta Catapano, David Jayne. University of Calgary, Canada; McMaster University, Canada; Addenbrooke's Hospital, United Kingdom; Rigshospitalet, Denmark

11:15      **Betty Chui**      **#014**

**ECONOMIC IMPACT OF DIALYSIS MODALITY SWITCH IN INCIDENT ESRD PATIENTS.**

B. Chui, J. Dong, S. Klarenbach. University of Alberta, Canada

11:30      **Yiannis Iordanus**      **#015**

**LIVING EXPANDED CRITERIA DONORS AND RENAL TRANSPLANT OUTCOMES: THE DISCONNECT BETWEEN CURRENT EVIDENCE AND PRACTICE.**

Yiannis Iordanus, Nicole Seymour, Ann Young, John F. Johnson, Arthur V. Iansavichus, Meaghan S. Cuerden, John S. Gill, Emilio Poggio, Amit X. Garg. University of Western Ontario, London, ON, Canada; University of Western Ontario, London, ON, Canada; St Paul's Hospital, University of British Columbia, Vancouver, BC, Canada; Cleveland Clinic, Cleveland, OH

**Monday, May 11**

10:00-12:30      **CONCURRENT SESSIONS**      **Manitoba/Saskatchewan**

**Clinical**

**FREE COMMUNICATIONS – CLINICAL**

**Chairs: Dr. Catherine Clase and Dr. Sofia Ahmed**

11:45      **Vinay Deved**      **#016**

**GROWTH HORMONE TREATMENT IN PATIENTS WITH END-STAGE RENAL DISEASE: A SYSTEMATIC REVIEW AND META-ANALYSIS.**

Vinay Deved, Ghazwan Altabbaa, Brenda R. Hemmelgarn. University of Calgary, Calgary, AB, Canada

12:00      **Marisa Battistella**      **#017**

**IMPROVED HYPERPARATHYROID CONTROL BY CINACALCET AMELIORATES ERYTHROPOIETIN RESPONSIVENESS IN PATIENTS WITH END-STAGE RENAL DISEASE.**

Marisa Battistella, Joanne M. Bargman, Robert M.A. Richardson, Christopher T. Chan.

12:15      **Matthew James**      **#018**

**EFFECT OF ACUTE KIDNEY INJURY ON PROGRESSION OF CHRONIC KIDNEY DISEASE FOLLOWING CORONARY ANGIOGRAPHY.**

Matthew T. James, William A. Ghali, Merrill Knudtson, Peter Faris, Marcello Tonelli, Neesh Pannu, Scott W. Klarenbach, Braden J. Manns, Brenda R. Hemmelgarn. University of Calgary, Canada; University of Alberta, Canada

10:00 – 12:30      **CONCURRENT SESSIONS**

**Basic Science**

**Turner Valley Room**

**FREE COMMUNICATIONS – BASIC SCIENCE**

**Chairs: Dr. Chris Kennedy and Dr. Daniel Muruve**

10:00      **Norm Rosenblum**      **#019**

**GLI3 REPRESSOR CONTROLS NEPHRON ENDOWMENT VIA DIRECT EFFECTS ON URETERIC TIP CELL DIFFERENTIATION.**

Jason E. Cain, Epshita Islam, Fiona Haxho, Erica Nieuwenhuis, Chi-Chung Hui, Norman D. Rosenblum. Hosp Sick Child, Toronto, ON, Canada

## **Monday, May 11**

10:00 – 12:30

### **CONCURRENT SESSIONS**

**Basic Science**

**Turner Valley Room**

**FREE COMMUNICATIONS – BASIC SCIENCE**

**Chairs: Dr. Chris Kennedy and Dr. Daniel Muruve**

10:15

**Darren Yuen**

**#020**

**BONE MARROW ENDOTHELIAL-LIKE PROGENITOR CELL INFUSION ATTENUATES RENAL INJURY IN A MODEL OF PROGRESSIVE KIDNEY DISEASE.**

Darren A. Yuen, Kim Connelly, Andrew Advani, Christine Liao, Michael Kuliszewski, Judy Trogadis, Kerri Thai, Suzanne Advani, Yuan Zhang, Darren J. Kelly, Howard Leong-Poi, Richard E. Gilbert. St. Michael's Hospital, University of Toronto, Toronto, ON, Canada; St. Vincent's Hospital, University of Melbourne, Melbourne, Victoria, Australia

10:30

**Cara Lau**

**#021**

**ANGIOTENSIN II STIMULATES CASPASE-12 CLEAVAGE VIA REACTIVE OXYGEN SPECIES GENERATION AND CAPAIN ACTIVATION IN RENAL PROXIMAL TUBULAR CELLS OF DIABETIC KIDNEYS.**

Cara J. Lau, Fang Liu, Marie-Luise Brezniceanu, Isabelle Chenier, Janos G. Filep, Julie R. Ingelfinger, Shao-Ling Zhang, John S.D. Chan. CRCHUM-Hôtel-Dieu, Montreal, QC, Canada; Maisonneuve-Rosemont Hosp., Montreal, QC, Canada; Mass Gen Hosp, Boston, MA

10:45

**Mark Seamone**

**#022**

**THE ROLE OF INFLAMMATION IN BK POLYOMAVIRUS REPLICATION IN VITRO.**

Mark E. Seamone, Daniel A. Muruve. University of Calgary, Calgary, AB, Canada

11:00

**Akosua Vilaysane**

**#023**

**THE NALP3 INFLAMMASOME CONTRIBUTES TO RENAL INJURY FOLLOWING UNILATERAL URETERIC OBSTRUCTION IN MICE.**

Akosua Vilaysane, Mark E. Seamone, Jeffrey A. Ng, Sharon A. Clark, Paul L. Beck, Daniel A. Muruve. University of Calgary, Calgary, AB, Canada

11:15

**Todd Alexander**

**#024**

**KLOTHO PREVENTS RENAL CALCIUM WASTING BY ACTIVATING TRPV5, NOT BY SUPPRESSING 1,25[OH]<sub>2</sub>VITAMIN D<sub>3</sub> EXPRESSION.**

R. Todd Alexander, Titia Woudenberg-Vrenken, Jan Buurman, Henry Dijkman, Bram C.J. van der Eerden, Johannes P.T.M. van Leeuwen, Rene J. Bindels, Joost G. Hoenderop. Nijmegen Centre for Molecular Life Sciences, Nijmegen, The Netherlands; The University of Alberta, Edmonton, AB, Canada; Radboud University Nijmegen Medical Centre, Nijmegen, The Netherlands; Erasmus Medical Centre, Rotterdam, The Netherlands

## **Monday, May 11**

10:00 – 12:30

### **CONCURRENT SESSIONS**

**Basic Science**

**Turner Valley Room**

#### **FREE COMMUNICATIONS – BASIC SCIENCE**

**Chairs: Dr. Chris Kennedy and Dr. Daniel Muruve**

11:30

**Wenjie Wang**

**#025**

#### **TETRASPANIN CD151 REGULATES POST TRANSLATIONAL INTEGRIN “SWITCHING” DURING EPITHELIAL INJURY.**

Wenjie Wang, Daniel A. Muruve. University of Calgary, Canada

11:45

**Yun-Wen Chen**

**#026**

#### **THE FUNCTIONAL ROLE(S) OF ANGIOTENSIN II TYPE II RECEPTOR (AT<sub>2</sub>R) DEFICIENCY IN THE DEVELOPMENT OF NEPHROPATHY IN TYPE I DIABETES.**

Shao-Ling Zhang, Yun-Wen Chen, Michael Scotcher, Isabelle Chenier, Stella Tran, John S.D. Chan, Marie-Josée Hebert, Julie R. Ingelfinger.

12:00

**Eli Kakiashvili**

**#027**

#### **MECHANISM OF TUMOR NECROSIS FACTOR- $\alpha$ -INDUCED RHO ACTIVATION IN THE TUBULAR EPITHELIUM: ROLE OF THE ERK PATHWAY.**

Eli Kakiashvili, Pam Speight, Faiza Waheed, Katalin Szaszi. St. Michael's Hospital, Toronto, ON, Canada

12:15

**Andrey Cybulsky**

**#028**

#### **THE Ste20-LIKE KINASE, SLK, STIMULATES p53 TRANSACTIVATION AND APOPTOSIS.**

Andrey V. Cybulsky, Tomoko Takano, Julie Guillemette, Joan Papillon, Rildo A. Volpini, John A. Di Battista. McGill University Health Centre, Montreal, QC, Canada

12:30 – 14:00

**Box Lunch**

**FOYER**

12:30 – 14:00

**Challenging Consults**

**Turner Valley Room**

**Chair: Dr. Mitch Halperin**

**CASE 1: Discussed by Dr. Karen Brown, McGill University**

Case 1 outlined on page 35.

**CASE 2: Discussed by Dr. Nadia Zalunardo, University of British Columbia.**

Case 2 outlined on page 36.

**Monday, May 11**

The Annual Scientific Meeting sessions are CSN-approved Group Learning Activities (Section 1) as defined by the Maintenance of Certification Program of The Royal College of Physicians and Surgeons of Canada

14:00-15:35

**CONCURRENT SYMPOSIA**

**Manitoba/Saskatchewan**

**Clinical Science: Nephrology Practice: The New Era**

**Chairs: Drs. Kailash Jindal and Dr. Tammy Keough-Ryan**

14:00-14:30

Nightly Dialysis: The Other Best Therapy for ESRD

***Dr. Christopher Chan, University of Toronto***

Objectives:

- ❖ To update recent clinical and basic advances in nocturnal home dialysis .
- ❖ To discuss the emerging role of nocturnal home dialysis among other renal replacement therapies.
- ❖ To highlight potential future clinical and research directions of nocturnal home dialysis as a valid renal replacement option.

14:30-14:35

The International Registry for Quotidian Dialysis

***Dr. Robert Lindsay, London Health Sciences Centre***

14:35-15:05

A Collaborative Approach to the Prevention of Diabetic Nephropathy

***Dr. Peter Senior, University of Alberta***

Objectives:

- ❖ Describe epidemiological trends and highlight and substantial burden of diabetes in the population.
- ❖ Recognize current care gaps and discuss.
- ❖ Outline a collaborative model for delivering proven therapies in local communities to this "high risk" population.
- ❖ Describe the effectiveness of this model and discuss factors associated with participant success.

15:05-15:35

The Istanbul Declaration on Organ Trafficking and Transplant Tourism  
(Panel Discussion)

***Dr. Adeera Levin, University of British Columbia***

***Dr. John Gill, University of British Columbia***

***Dr. Edward Cole, University of Toronto***

## **Monday, May 11**

14:00-15:30

CONCURRENT SYMPOSIA

Tuner Valley Room

### **Basic Science: Mechanisms Controlling Epithelial Integrity: Development and Response to Injury**

**Chairs: Dr. Andrey Cybulsky and Dr. Allan Murray**

14:00-14:30

**Planar Cell Polarity Pathway: It's Role in Development and Disease  
Dr. Elena Torban, McGill University**

Objectives:

- ❖ To familiarize wide audience with the role of the planar cell polarity pathway in mammalian development.
- ❖ To present data demonstrating an involvement of the planar cell polarity pathway in kidney development and disease.
- ❖ To address a specific role for this novel pathway in podocyte development, their function and a possible PCP role in glomerular pathogenesis.

14:30-15:00

**MicroRNAs in Epithelial Development and Injury  
Dr. Jacqueline Ho, Childrens Hospital, Boston**

Objectives:

- ❖ To define microRNAs and their importance in development and disease.
- ❖ To describe a requirement for microRNAs within different compartments of the developing kidney.
- ❖ To discuss potential mechanisms by which microRNAs may regulate the progenitor pool.

15:00-15:30

**Collecting Duct Injury During Fetal Urinary Tract Obstruction  
Dr. Douglas G. Matsell, University of British Columbia**

Objectives:

- ❖ To discuss the importance of fetal urinary tract obstruction in childhood chronic kidney disease.
- ❖ To define the contribution of fetal collecting duct injury to postnatal kidney form and function.
- ❖ To summarize approaches to understanding the mechanisms of collecting duct epithelial injury.

15:30-17:00

**Poster Viewing Session (Authors Present)  
(Wine & Cheese)**

**BC/Alberta/Yukon**

17:00-18:30

**CSN Annual Business Meeting**

**Manitoba/Saskatchewan**

17:30-20:00

**Poster Teardown**

Monday, May 11

**Gala Dinner & Awards**

**The Fairmont Hotel MacDonald  
10065 100<sup>th</sup> Street  
Edmonton, Alberta**

**18:30 Cocktails**

**19:30 Dinner**

**21:30 Auction**

**Presentations:**

- **8 Trainee Awards**
- **KRESCENT Awardees 2009**
- **CSN/KFoC Fellowships**
- **KFoC 2008 Medal for Research Excellence**

**Featuring a Live Auction:**

**Dr. Patrick Parfrey, Auctioneer**

## Tuesday, May 12

7:00-10:00	Education Committee Meeting (Breakfast) Chair: Dr. Ellen Burgess	Consulate Room
7:00-08:30	Continental Breakfast	Foyer
8:30 -10:00	<b>Therapeutics Forum: Lupus</b>	<b>Manitoba/Saskatchewan</b>
	<b>Chairs: Dr. Marisa Battistella and Dr. Scott Klarenbach</b>	
8:30-9:00	Something Old, Something New, and Something That Should Leave Us Blue: Evidence for Therapies in Lupus Nephritis <b>Dr. Michael Walsh, University of Alberta</b>	
	Objectives: <ul style="list-style-type: none"><li>❖ To review the evidence for the use rituximab in the treatment of lupus nephritis.</li><li>❖ To review the evidence behind how we use glucocorticoids in the treatment of lupus nephritis.</li><li>❖ To review how we determine efficacy in clinical trials of therapeutics in lupus nephritis.</li></ul>	
9:00-9:30	Optimal Induction and Maintenance therapy for Proliferative Lupus Nephritis <b>Dr. William Clark, London Health Sciences Centre</b>	
	Objectives: <ul style="list-style-type: none"><li>❖ Review the RCTs (2000-9) for induction and maintenance therapy in proliferative lupus nephritis with particular reference to variability in populations studied, outcome measurements and follow-up.</li><li>❖ Provide an opinion based rationale for optimal therapy for induction and maintenance therapy.</li><li>❖ Outline potential considerations that could optimize the future design of RCTs about induction and maintenance therapy for proliferative lupus nephritis.</li></ul>	
9:30-10:00	SLE and Drug Kinetics <b>Dr. Nilu Partovi, Vancouver General Hospital</b>	
	Objectives: <ul style="list-style-type: none"><li>❖ To provide an overview of newer therapeutic agents in treatment of SLE.</li><li>❖ To review dosing, safety, drug interactions and toxicities of mycophenolate mofetil, and tacrolimus in patients with lupus nephritis.</li></ul>	
10:00-10:30	<b>Coffee Break</b>	<b>Foyer</b>



**Tuesday, May 12**

12:00-13:00

**Debate**

**Manitoba/Saskatchewan**

**Resolved: Combination Use of ACE and ARB is Unsafe and Should be Discontinued**

**PRO Ernesto L. Schiffrin, McGill University**

Objectives:

- ❖ Learn about the limited BP lowering advantage of combining ACE inhibitors and ARB's in individuals at elevated cardiovascular risk and hypertensive subjects who do not have proteinuria.
- ❖ Understand the side effects induced by the combined use of ACE inhibitors and ARBs in individuals at elevated cardiovascular risk and hypertensive subjects who do not have severe proteinuria.
- ❖ Be informed of the difference between individuals at elevated cardiovascular risk and hypertensive subjects who do not have proteinuria, who do not benefit, and subjects with heart failure who may benefit from the association of ACE inhibitors and ARBs, or nephropathic diabetic subjects for who the randomized controlled trial evidence on benefit or harm by this therapeutic association is still not available

**CON Dr. Branko Braam, University of Alberta**

Objectives:

- ❖ Provide an overview of the spectrum of disease processes (in addition to acute kidney injury) where initiation of renal support has an adjuvant role.
- ❖ Provide an overview of clinical factors associated with initiation of renal support in critically ill patients.



## **Wednesday, May 13**

7:00-08:30 Continental Breakfast

Foyer

**8:00-17:00 Annual Review Course**

**Devonian Room**

8:00 Lectures:

- Update in SLE
- Update in Glomerulonephritis

*Dr. Joanne Bargman*

*Dr. Daniel Cattran*

10:00-10:30 COFFEE BREAK

**Foyer**

10:30 CONCURRENT WORKSHOPS

Anemia

Dr. Adeera Levin

Devonian

GN Case Studies in Adults

Dr. Heather Reich

Turner/Valley

GN Case Studies in Children

Dr. Daniel Cattran

Consulate

Hemodialysis Access

Dr. Louise Moist

Chancellor

Potassium Disorders

Dr. Kamel Kamel

Leduc

12:00-13:00 **BUFFET LUNCH**

**Centennial Room**

13:00 CONCURRENT WORKSHOPS

Donor Evaluation in Adult Transplantation

Dr. Phil McFarlane

Consulate

GN Case Studies in Adults

Dr. Heather Reich

Turner/Valley

Potassium Disorders

Dr. Kamel Kamel

Leduc

Renal Pathology for Non-Nephrologists

Dr. Andrew Herzenberg

Chancellor

14:30-15:00 COFFEE BREAK

**Foyer**

**Devonian Room**

15:00 Lectures:

- Sodium Disorders
- Acid-Base Disorders

*Dr. Kamel Kamel*

*Dr. Robert Richardson*

16:45 Review Course Wrap-Up

*Dr. Jordan Weinstein*

# **CASES**

**Consult:**

Why did a hemodynamic emergency occur in this setting?

**Story**

A 7-year old, 20 kg child had an elective tonsillectomy and adenoidectomy this morning. There were no other medical problems or known allergies, and there were no issues concerning other medications.

**Events in the operating room**

Surgery and emergence from anesthesia were uneventful. After extubation, codeine phosphate was ordered (30 mg (74  $\mu$ mol)) because of discomfort, but it was inadvertently administered by intravenous push into a dorsal vein of the hand before transfer to the recovery room. Almost immediately, his colour turned grey and his femoral pulses were not palpable. The EKG revealed sinus rhythm. Cardiac massage and an epinephrine infusion (0.05  $\mu$ g/kg/min) titrated to the return of palpable femoral pulses led to a prompt hemodynamic improvement. The child was rapidly weaned off epinephrine and he was extubated within 50 min. There was a full recovery. Since a cutaneous flush was present over the trunk, the presumptive diagnosis was anaphylaxis, which was treated with intravenous solucortef (5 mg/kg), ventolin, and diphenhydramine (1 mg/kg).

An arterial blood sample was drawn 18 min after this emergency began, and the results were:

pH		7.29	K <sup>+</sup>	mmol/L	3.0
PCO <sub>2</sub>	mm Hg	41	Glucose	mmol/L	6.5
HCO <sub>3</sub> <sup>-</sup>	mmol/L	20	Lactate	mmol/L	1.3
Hematocrit	%	33	Ionized calcium	mmol/L	0.72

**Questions**

1. If the IV phosphate caused a precipitate with ionized calcium, what would the expected ionized calcium concentration be in plasma? Is this the value that was observed?
2. Why did the hemodynamic emergency occur so quickly?
3. How did the patient recover from the hemodynamic emergency if the ionized calcium concentration was so low 18 min later?

Please comment on the broader implications of this clinical scenario.

**Consult:**

Why did this patient have recurrent hypokalemia over the past year?

**Story**

A very fit 27-year old Caucasian woman was in excellent health until 1 year ago. Her past medical history revealed mild asthma, for which she took a bronchodilator on an intermittent basis. In the past year, she had the sudden onset of extreme weakness after performing vigorous exercise. There was no family history of hypokalemia, hypertension, or paralytic episodes. On more detailed questioning, she said that she had a large intake of sugar, but she did not take her bronchodilator before the exercise.

In the emergency room, she was very concerned; tachycardia (130/min) and mild systolic hypertension with a wide pulse pressure (150/70 mm Hg) were present.

On laboratory examination, the principal observation was a very low concentration of  $K^+$  in plasma. Following intravenous KCl, she recovered promptly, but little  $K^+$  was given. Given the time course and the quick recovery, the diagnostic category was an acute shift of  $K^+$  into cells. The laboratory data for plasma are provided below.

$Na^+$	mmol/L	141	Glucose	mmol/L	7.4
$K^+$	mmol/L	2.1	Creatinine	$\mu\text{mol/L}$	77
$HCO_3^-$	mmol/L	26	Urea	mmol/L	3.4

The thyroid function tests were all in the normal range.

**Clinical course**

Of great consternation, she has had 3 more episodes of paralysis with a similar degree of hypokalemia over the past 9 months. Each attack occurred without an intake of bronchodilator, the performance of exercise, or a large ingestion of sugar. She denied the use/abuse of diuretics or laxatives, bulimemic symptoms, glue sniffing, substance abuse (no needle marks), the ingestion of licorice and over the counter drugs. She drinks a modest amount of caffeine, but none before the last 2 admissions.

On each admission, the clinical course was identical. She recovered completely following a small administration of KCl, which normalized her plasma  $K^+$  concentration. The laboratory tests were similar on each occasion, with one exception (withheld). There was no acid base disturbance and the urine on admission contained almost no  $K^+$ .

Being desperate for a diagnosis, the following blood tests were performed before discharge. Each of the following was in the normal range ( $K^+$ ,  $HCO_3^-$ , glucose, insulin, C peptide, thyroid function tests, CK, cortisol, renin, aldosterone, and the ratio of renin to aldosterone).

**Questions**

1. What is the most likely pathophysiology for the repeated episodes of acute hypokalemia?
2. What tests should be performed in the emergency room if she has another episode of hypokalemia and paralysis (or weakness) to reveal the correct diagnosis?
3. Would your treatment be different for her next attack?

# **ABSTRACTS**

Disclaimer: All abstracts have been reprinted as received.