OPSEI

The Slate

The Newsletter of The Office of Pediatric Surgical Evaluation and Innovation

CHILD & FAMILY RESEARCH INSTITUTE

BC CHILDREN'S HOSPITAL
An agency of the Provincial Health Services Authority

UBC


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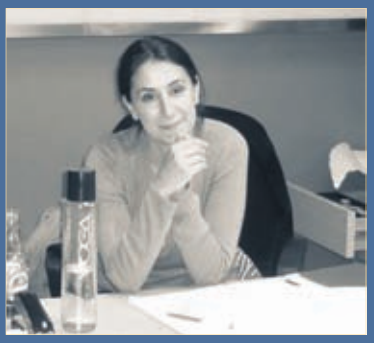

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Making the Grade in the MD/PhD Program

By: Dr. Erik Skarsgard, Head, Division of Pediatric General Surgery

Patrick Yang

"Needless to say, Patrick is a remarkable student whose passion for knowledge and his commitment to achievement will ensure his future success as a clinician scientist."

Over the years, I've come to realize that my growth and development as a surgical investigator is almost exclusively due to the high quality students I've had the good fortune to mentor. Patrick Yang was my summer student after his first year of medical school at UBC, and picked up a research project that had been gathering dust for 2 years after the graduation of a MSc student. Within a few weeks, Patrick had adapted a lentiviral-vector fetal gene therapy prep (an experimental therapy for prenatally diagnosed cystic fibrosis) that we had developed previously in rabbits, to mice, and by the end of the summer had accumulated enough data to present his work at the Western Society for Pediatric Research meeting in Carmel, CA. This is a very large medical student research meeting with representation from all of the medical schools on the west coast of Canada (including a healthy UBC contingent) and the US, and Patrick distinguished himself and UBC by winning the "best paper" prize in the highly competitive genetics section.

Patrick then decided to switch to the MD/PhD program with myself and Dr. Bill Jia, (a PhD appointed in the Department of Surgery with whom I've collaborated since 2003) as his co-supervisors. Patrick is now 18 months into his planned 3 years of dedicated research time. He is funded by a CIHR PhD student salary award, and by my multi-year operating grant from the Canadian Cystic Fibrosis Foundation. In June he passed (with flying colors!) his PhD comprehensive exam (in the Dept of Experimental Medicine, since Surgery does not have a PhD program), and has accumulated enough data to write 2 papers that are in the submission process. In April, he presented his work at the American Society of Clinical Investigation and the Association for American Physicians joint meeting in Chicago, and was awarded the best poster prize from over 220 poster submissions! Needless to say, Patrick is a remarkable student whose passion for knowledge and his commitment to achievement will ensure his future success as a clinician scientist. I am doing my best to convince him that he could achieve all of this in the context of a career in pediatric surgery!

As a clinician whose value as an investigator is determined by the quality of my collaborations, I've been extremely fortunate to find such a willing and supportive colleague in Bill Jia. Bill and I bring complementary attributes of scientific expertise and realization of clinical opportunity to Patrick's translational research. Patrick's PhD thesis proposal is based on non-viral gene delivery strategies, since many experts now feel that biosafety issues associated with the use of modified viruses as gene transfer agents are prohibitive. To this end, we've also found a partner in a UBC based biotechnology company (EnGene) which produces chitosan (an inexpensively produced nanoparticle that binds DNA and transports it across cell membranes and the nuclear envelope) which we use for our experiments.

I feel privileged to work in an environment that allows me to care for sick children (which is still my primary passion!), and mentor remarkable individuals like Patrick, who most capably represents the next generation of surgical innovators.

(L to R): Erik Skarsgard, MD, Geoffrey Blair, MD, Sonia Butterworth, MD, James Murphy III, MD, Eric Webber, MD

The Division of Pediatric General Surgery Welcomes Dr. Sonia Butterworth

Sonia Butterworth, MD, FRCSC

Dr. Butterworth, a graduate of the University of BC, completed her pediatric surgical residency at BC Children's Hospital. She is a Fellow of the Royal College of Physicians and Surgeons of Canada, and has been in practice in Portland, OR. We have been fortunate to recruit her back to Canada, where her skills and compassion will greatly benefit the children of BC.

Dr. Geoffrey Blair, Mr. Derek Atkins, Ms. Candice Chan, Mr. Damian Duffy, Mr. Navid Dena

Operations Research

By: Mr. Navid Dena, Operations Researcher, OPSEI

Highlighting the Partnership between BC Children's Hospital and the UBC Centre for Operations Research

OPSEI continues to build a unique partnership with the Centre for Operations Excellence (COE) at Sauder School of Business at the University of British Columbia. The COE supports the Masters of Management in Operations Research program where it trains students each year in the field of Operations Research. Students engage in a number of relevant and practical projects with an increasing involvement in health care. Over the past few years the COE helped BCCH to develop various models such as the OR Patient Flow Simulation model to effectively analyze the impact of changing operations or scheduling techniques to improve the patient flow and access to care. As an example of one of the scenarios tested, the models showed the exact effects of having an Open Access Room in the Operating Room developed solely for highly urgent and emergent surgical cases three days a week on overtime work and cancellations. Since its opening in April 2006, there has been over 17% reduction in OR overtime, 38% reduction in PACU overtime, and over 70% reduction in the number of elective cases bumped by incoming emergency cases. Moreover safer care has been provided by a shift from doing emergency cases from nighttime to daytime.

In the summer of 2008, OPSEI initiated an innovative project with the COE to look at alternative ways to redesign the BCCH Operating Suites.

The goal of the project was to evaluate the idea of having a separate Ambulatory Surgical Unit (ASU) designed specifically to handle relatively simple and less resource dependent surgeries ("express" surgeries) for the new Children's Hospital. It was anticipated that, under the proposed configuration, more patients could be accommodated in a more efficient manner.

For this purpose, a simulation model was developed to simulate the flow of scheduled patients through the hospital and to evaluate how different plans for configuring the surgical suites of the new BCCH could impact both pre-and-post surgical clinical resources. Efficiency gains were modeled as reductions in average processing times and/or variability in these times. In this project, the COE team is currently testing whether the ASU should be implemented as a completely stand alone unit, separate from BCCH's current tertiary surgical suite, or whether some functional overlaps should exist between the two.

Over the past summer, OPSEI also facilitated an exciting project to look at ways to reduce stress levels in the BCCH Radiology Department through improving booking, scheduling and capacity management. In order to measure how MRI responds to different booking scenarios, a simulation model was developed. To have a clear picture of how bookings affect the MRI waitlist, a booking optimization tool was created. In this tool, the number of bookings per week for different MRI exam types can be changed, and the model is able to show the effect of these changes on the MRI waitlist. In summary, a number of different proposals were put forward which related to capacity, waitlist, variability and general topics, all of which can help towards improving processes and capacity in the Department of Radiology.

Dr. Kishore Mulpuri and the Orthopedic Surgery Team

Congratulations to our 2008 STELLA Scholars

By: Dr. Geoffrey Blair, Chief of Pediatric Surgery

Interested in applying for a STELLA scholarship? A call for applications will be sent out in early 2009.

Surgical Techniques Educational Leaves for Leading Advancements (STELLA) is a program which allows members of the surgical team to acquire new procedural skills with the view of bringing back leading edge methods for the provision of surgical care to children at BC Children's Hospital.

This program was developed by the Office of Pediatric Surgical Evaluation and Innovation three years ago and is funded by BC Children's Hospital Foundation. OPSEI seeks to promote and facilitate advanced training for members of the Departments of Pediatric Surgery, Pediatric Anesthesia and Pediatric Dentistry.

The Goals and Objectives of the STELLA Scholarship Program are:

- To afford pediatric surgeons, pediatric anesthesiologists and pediatric dentists with opportunities to learn new techniques which contribute to excellence in child health.
- To broaden and expand the availability of new procedures and techniques in our hospital.
- To investigate those technical advances used elsewhere and to seek to improve upon them here in an academic, inquisitive learning environment.

2008 STELLA Scholars:

Dr. Kishore Mulpuri, Department of Pediatric Orthopedics: *"Surgical Management of Slipped Capital Femoral Epiphysis (SCFE)"*

Dr. Gillian Lauder, Department of Pediatric Anesthesia: *"Utrasound for Pediatric Neural Blockade: An Anesthesia Application"*

Dr. Firoz Miyanji, Department of Pediatric Orthopedics: *"Extreme Lateral Inter-Body Fusion"*

Dr. Jeffrey Ludemann

Dr. Ludemann and his project team received $50,300 from the UBC Hampton Fund to evaluate knowledge transfer related to choking prevention in school-aged children.

A New Strategy to Educate the Public About Choking Prevention

By: Dr. Jeffrey Ludemann, Pediatric Otolaryngology

Each year at BCCH, more than 60 children require rigid endoscopy under general anaesthesia to remove a foreign body from their esophagus, bronchi or larynx. Each year in BC, nearly 3 children choke to death. In North America, choking is the fourth leading cause of childhood accidental death (after motor vehicle accidents, drowning and alcohol/drug poisoning). Even though childhood choking deaths are more common in BC than childhood deaths from fire or dirt bike/ATV/snowmobile accidents, a recent article in the Vancouver Sun, "Summer Fun Can Be Deadly" (June 28, 2008) reviewed preventive strategies for all these types of accidents, except fires and choking. In North America, Otolaryngologists and Pediatricians have been educating the public about choking hazards and prevention for 85 years. For the last 6 years, I have worked with BCCH Safe Start and Public Affairs and Communications to alert the public about choking hazards. We have used various media, including television, radio, newspapers and parenting magazines. We have given clear, concise information and used a multi-cultural, multi-lingual

approach. Unfortunately, neither our campaign nor an even larger campaign in Quebec has made much of an impact. We've seen not only more annual choking accidents, but have also noted that the victims have become relatively younger, often only one year of age.

We perceive several barriers to educating parents about choking hazards, not least of which is the fact that parents often misinterpret advice about safe feeding practices as a criticism of their parenting skills. After careful review of the literature (including reports of successful choking prevention campaigns in Israel and Crete) and consultation with Dr. Edith Blondell-Hill (champion of the "Not All Bugs Need Drugs" campaign), we have decided to take a new approach and educate both parents and school-aged children through computer technology. We have produced "Be Safe, Don't Choke," a 90-second, animated video on choking hazards and prevention, which will be placed on YouTube and linked to an interactive, educational website, designed for pre-teens, teenagers and adults (www.dontchoke.net, in production).

In the video, animated educators Professor Aristotle McInnus and his grandson Patrick take viewers through 5 choking scenarios, including the successful use of the Heimlich maneuver by a mother whose daughter has complete laryngeal obstruction from a hot dog. Through various educational strategies, including "video games", the website will explain swallowing and breathing physiology and why uncut hot dogs, grapes, gel candies, balloons and metallic stickers become lodged between the vocal cords; while nuts, raw vegetables, unpopped popcorn kernels, pins and needles become lodged in the bronchi; and coins and disc batteries become lodged in the esophagus. The website will review the consequences of various types of choking and list preventive strategies for children, parents, teachers, daycare instructors and baby-sitters. Since even pre-teens have been reported to have saved lives using the Heimlich maneuver, its proper application will also be illustrated.

Development of the educational video and website has been supported in part by the BCCH Foundation and by medical industry. Dr. Samson Nashon and I have also received a grant of $50,300 from the UBC Hampton Fund from the UBC Department of Education to evaluate knowledge transfer from these new educational technologies in children in several grade 5 and 10 classrooms in Vancouver. After wide-spread distribution, we hope to measure immediate and generational reduction of the number of choking accidents, both locally and world-wide. If successful, this educational model could be used to help prevent many other types of injuries, including cervical spine trauma from diving and mountain-biking.

Ophthalmology in Focus: Reaching Out in Remote British Columbia

By: Dr. Christopher Lyons, Head, Department of Pediatric Ophthalmology

Traveling to remote British Columbia to look after children, and sometimes to operate on them is easy enough for a pediatric ophthalmologist. After all, one of the selling points of this surgical specialty when I was in medical school was mobility: "All the instruments are small enough to pack into a briefcase," I was told. However, in the anxiety of another rushed departure, I always tell myself, "This really must be my last trip." Life is busy enough without the added complications of reduced clinics, asking colleagues to cover day-call, missed administrative meetings, and cancelled flights. So why do it?

In my first few years here, I inherited clinics in Nelson, Fort Nelson and Bella Coola. Drs. Roy Cline and Jane Gardiner travel to provide pediatric ophthalmology care in Fort St. John as part of the UBC clinic there. The mathematics are obvious -- seeing approximately 30 children in Nelson and operating on 4 or 5 of them, all in a 2-day trip, saves

Dr. Roy Saunders (Pediatrics), Dr. Christopher Lyons (Pediatric Ophthalmology), Dr. Keith Riding (Pediatric Otolaryngology)

the families the stressful trip to Vancouver, the time off school, the time off work (often for both parents), and the expensive flights or fuel for the trip, as well as hotels. Multiply this by the number of family members traveling, and one can easily see how a consultation with the Children's Hospital doctor becomes an expensive and disruptive endeavor.

The government covers travel time for the doctor, hotel and food expenses for the trip through the NITA program. MSP billings for consultations and surgery are also paid at the local NITA rate. While these trips are not really financially rewarding, which is a shame if others are to be encouraged to participate, the children and their families are obviously grateful for your efforts. The local doctors and optometrists are also very welcoming and appreciative. I have enjoyed visiting these beautiful remote communities and making new friends over time.

"Many of us participate in Third World work, while in fact there are also tremendous needs in remote British Columbia."

The important policy of providing good care closer to home makes sense. Many of us participate in Third World work, while in fact there are also tremendous needs in remote British Columbia. Perhaps one day some remote communities will have the critical mass of patients to have their own subspecialty physicians such as pediatric ophthalmologists. Until then we need to work together to support children, families, and our colleagues in rural BC.

Clinical Research in Pediatric Anesthesia Profile: Dr.Simon Whyte

By: Simon Whyte, Pediatric Anesthesiologist

Dr. Simon Whyte, Dr. Kav

My name is Simon Whyte. I've been on staff as a pediatric anesthesiologist at the British Columbia Children's Hospital since February 2006. I completed my medical school training and my anesthesia training in the United Kingdom, before coming to Vancouver in 2004 to do a Fellowship in Pediatric Anesthesia at BCCH. I spend most of my time doing hands-on clinical work in the operating rooms at BCCH. One day a week I am let out for good behaviour to pursue my clinical research interests.

My current research is focussed on two separate areas. The first is an ongoing exploration of the effects of anaesthetic medications, & other drugs administered by anaesthesiologists in the perioperative period, on myocardial repolarisation dynamics. The overarching goal of several studies is to establish an evidence base for safe perioperative pharmacological management of patients with or at risk of long QT syndromes. Long QT syndromes, are caused by gene mutations (congenital LQTS) and/or various drugs (acquired LQTS) that interfere with the normal opening & closing of ion channels in myocardial cells. Their classic signature is a long QT interval on the ECG. The important end result is a predisposition to a potentially fatal dysrhythmia, torsades des pointes (TdP). The disease is of interest to anaesthesiologists because many of our drugs cause acquired LQTS & because many of the recognised triggers of TdP in susceptible individuals are present in the perioperative period.

"Our work has focussed on assessing the effect of individual anaesthetic drugs in children, in the absence of airway or surgical stimulation, on both the QT interval and a novel ECG parameter called Tp-e."

One of the difficulties is predicting which patients with LQTS are actually at risk of TdP. Unfortunately, the QT interval

vshala Peiris, Ms. Lesley Davidson, Ms. Joanne Lim, Ms. Maryam Dosani, Ms. Disha Mehta

is very unhelpful in this regard, even though it remains the measure that most people use. QT interval prolongation (which is actually not that uncommon) is associated with, but is not the cause of, TdP (which is rare). In the absence of anything better, however, QT intervals are widely used as a marker of increased risk of TdP. The existing literature on the safety or otherwise of anaesthetic drugs in patients with or at risk of LQTS is based on studies of their effect on QT intervals; the value of these studies is further clouded by polypharmacy, making it difficult to separate out the relative effects of individual drugs.

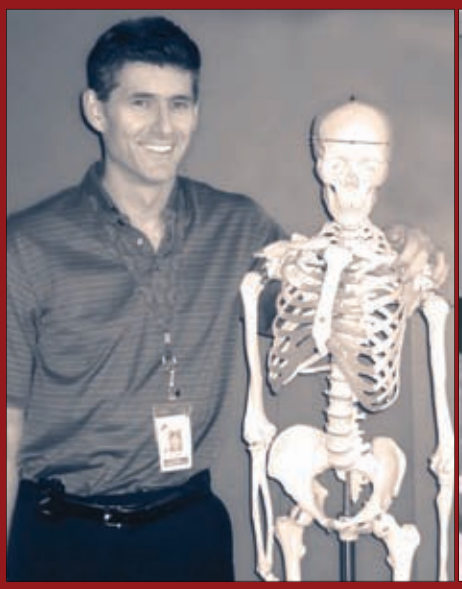
Our group designs studies that aim to address these deficits. Our work has focussed on assessing the effect of individual anaesthetic drugs in children, in the absence of airway or surgical stimulation, on both the QT interval and a novel ECG parameter called Tp-e, which is widely regarded as a better predictor of the risk of TdP than the QT interval. In a pilot study (1) and in two subsequent dose-response studies, we have shown that sevoflurane, a commonly used volatile anaesthetic, has no effect on Tp-e, despite markedly prolonging the QT interval (2); and that propofol has no significant effect on either QT or Tp-e intervals (3). This latter finding is of dual significance: firstly it provides evidence to support the use of propofol as the agent of choice in patients with or at risk of LQTS; secondly it provides us with a baseline in vivo human model for the assessment of other drugs used in the perioperative period.

Our current study is investigating the effect of perioperative antiemetic drugs on QT & Tp-e intervals. We are also initiating a collaboration with the UBC Pharmacology Department, to investigate at a molecular level, the effects of anaesthetic drugs on myocardial cells with transfected long QT mutations.

My second, nascent, research interest concerns advanced airway management in children. Advanced airway management is a quintessential anaesthetic skill. The occurrence of a "difficult airway" is less common in children than in adults, but is no less challenging when it occurs. As with many other aspects of pediatric medicine, research into optimal difficult airway management strategies in children is less prevalent; furthermore the armamentarium of equipment available for advanced airway management in children is smaller than in adults, & studies evaluating & validating such equipment are fewer.

We currently have two studies awaiting institutional review board approval. The first is an industry-supported three-phase evaluation of a novel laryngeal mask airway (LMA) that is designed to serve as both a primary airway in elective situations where an LMA is indicated and as a bridging or rescue airway in anticipated or unanticipated difficult intubation, through which fibreoptic endotracheal intubation can be conducted more easily than with existing LMAs.

The second is an evaluation of a simple technique for prolonging the period of time that adequate oxygenation can be maintained in apnoeic children; such a technique would prolong the safe duration of apnoea that inevitably occurs during intubation; this period is prolonged when intubation is unexpectedly difficult or when advanced airway management techniques such as fibreoptic intubation are used or taught to trainees.



Dr. Chris Reilly

Ms. Angie Perdios

An Update on Orthopaedic Research

By: Ms. Angie Perdios, Research Coordinator, Pediatric Orthopedics

ORTHO

The Department of Orthopaedics hosts a diverse group of research areas, often closely matching the clinical cases managed by each surgeon. A wide variety of projects stem from the assortment of pathologies each surgeon specializes in, ranging from basic science to clinical outcomes based projects. This summary will highlight a few successes from the research group directed by Chris Reilly, Kishore Mulpuri, Firoz Miyanji and Rick Beauchamp who, along with their 42 active projects, have had a very successful year thus far with a prolific medical summer student program and the emergence of new collaborations with OPSEI.

This year's summer student research program has been the most successful to date. Graham Noble, Ashlee Dobbe and Ali-Reza Merali, 2nd and 3rd year UBC medical students, spent their summer completing long term follow-up projects in the areas of trauma and idiopathic toe walking. Genevieve Lennox, a 3rd year UBC medical student, was funded by the UBC Faculty of Medicine to complete a collaborative project between Orthopaedics, Anaesthesia and the Pain Service. Each of their projects was submitted to the Western Society for Pediatric Research annual meeting for podium presentations and will go on to be submitted for publications in peer-reviewed journals, excellent closure for their hard work.

Dr. Mulpuri has established new collaborations with Manipal University in the area of Perthes' research and was the recent recipient of the Angela Kuo Award of Excellence from the Pediatric Society of North America and Global Collaboration Initiative from the Vancouver Coast Health Research Institute to foster the collaboration in India.

Dr. Kishore Mulpuri

Ms. Caitlin Blewett

Dr. Mulpuri has also teamed up with Dave Wilson, PhD, from Orthopaedic Engineering to develop advanced MRI imaging techniques to assess cartilage degeneration and bony deformities in Perthes' patients. He hopes to unite these two collaborative efforts and apply the advanced MRI technique to an Indian Perthes' patient series, which is one of the largest in the world.

The combine Spine Program, led by Firoz Dr Miyanji and Chris Reilly, has not only been a success in the clinic but has led to the involvement of BC Children's Hospital Orthopaedics in a prestigious, international, multi-center collaboration evaluating the outcome of treatment on scoliosis. The Harms Study Group is a group of paediatric spine surgeons that collect high quality radiographic and functional outcomes data on a large range of surgical patients. The quality of the papers and presentations that emerge from this research are highly regarded in the Pediatric Orthopaedic Spine community.

This year has also seen a new collaboration between Orthopaedics and OPSEI. The group has worked closely with Debbie Bertanjoli, Data Facilitation Officer, to develop a web-based interface for administration of clinical questionnaires and research instruments hosted on the OPSEI website.

The site can be accessed by the patients at home or in the clinic and the plan is to include a number of functional outcomes instruments that will be completed during a patient's regularly scheduled follow-up visit. This will be an efficient way to collect information on the patient and fully embed research within the clinic structure.

Healthy Workplace Funding Received at the Oak Street Campus

Within the UBC Focus on People initiative, there was recently a funding competition to promote health and wellness across the university community. We are very pleased to advise you that our application entitled, "Promoting Health and Wellness through a Workplace Bike-to-Work Program among Faculty, Staff, and Students at the Oak Street Campus" has been funded in the amount of $6,400.

Ms. Joanne Lim, Ms. Maryam Dosani, Ms. Disha Mehta

2008 Summer Students of The Pediatric Anesthesia Research Team

By: Ms. Joanne Lim, Research Coordinator, Pediatric Anesthesia

The Pediatric Anesthesia Research Team (PART) has once again successfully completed several summer research projects. Current undergraduate and graduate students from UBC and beyond joined our research team this summer. The following students participated in the Child & Family Research Institute's (CFRI) summer student program and poster competition (in alphabetical order):

Mr. Eugene Choo

Eugene Choo (supervised by Dr. Carolyne Montgomery and Dr. Mark Ansermino) – Skin Conductance as a Measure of Post-Operative Pain in School-Aged Children (Poster competition – 2nd place award). Eugene is going into his second year of medical school at UBC. He managed the incredible feat of recruiting all 100 subjects in his study in only 12 weeks! Eugene will be tackling the data analysis and publication of study results in the coming months.

Ms. Genevieve Lennox

Genevieve Lennox (supervised by Dr. Gillian Lauder and Dr. Chris Reilly [orthopedics]) – Does the Mode of Post-Operative Systemic Opioid Infusion in Pediatric Idiopathic Scoliosis Patients Affect Patient Outcome? Genevieve is going into 3rd year of medical school at UBC. She successfully completed her chart review this summer.

Ms. Jackie Tapan

Jackie Tappan (supervised by Dr. Mark Ansermino) – Improved Vigilance with Context Relevant Physiological Monitoring in a Simulated Clinical Setting (Poster competition – 3rd place award). Jackie recently graduated from the mechanical engineering program at the University of Waterloo. She will be starting her Master's program at the Massachusetts Institute of Technology in September.

A collegial team moment at the Pediatric Pediatric Anesthesia Retreat. Ms. Susan Poitras, Dr. Gerry Goresky, Dr. Mark Ansermino, Dr. Claire Campbell, Mr. Jeremy Daniels

Our research group was also joined by two more summer students, Dustin Dunsmuir and Matt Dolnik, who are students from the Simon Fraser University (SFU) Interactive Arts & Technology program. They were here working on various projects in improving physiological monitoring through the use of technology. Dustin spent another summer refining his knowledge-authoring tool, iKnow (http://iknow.chii.ubc.ca/). He will be starting a Master's degree program at SFU in September. Matt's skills in Flash® were a great help to Jackie's projects in implementing the ecological displays. Matt is off to Waterloo for a co-op job with Research in Motion (RIM) before he heads back to SFU to finish his undergraduate studies.

Last but not least, our "permanent" student Jeremy Daniels spent time with us working on his brainchild patient safety project, The Bedside Observer: Using Patient and Family Observations to Enhance Patient Safety). Jeremy's undergraduate training in engineering has been a valuable asset to our team. Jeremy will be entering his second year of medical school at UBC.

We congratulate our students on their great success, and wish them luck in the future!

Congratulations to Dr. Doug Cochrane on his recent appointment by the Ministry of Health Services as Chair of the BC Patient Safety and Quality Council. Effective August 30, 2008, he will be resigning his current positions as PHSA's VP Quality & Safety and VP Medicine at BC Children's Hospital to help create and lead the new Council. It will work to reduce adverse events, promote transparency and identify best practices to improve patient care by providing advice and recommendations to the Minister on matters related to patient safety and quality of care.

We wish Dr. Cochrane the very best in his new role.

BC Children's Hospital and Fudan University Children's Hospital Cardiac Sciences Partnership

By: Dr. Jacques LeBlanc, Pediatric Cardiac Surgery

The Cardiac Sciences program established a partnership with the Fudan University Children's Hospital Cardiac team 5 years ago. The terms of the partnership were teaching, education, surgical mentoring, skills enhancement and the development of a cardiac sciences teaching curriculum. A Cardiac Science team of 7 has travelled to Shanghai twice a year during which formal lectures, bedside discussions, operating room and ICU teaching take place. Significant progress has been made. A group of 68 patients with complex cardiac defects were discussed by teleconference before the trips and received surgery by the Canadian and Chinese teams working closely together. Despite the unknown environment challenges and the complexity of the cases, a success rate of 97% was obtained. Quality assurance discussions have occurred, leading to the establishment of a computerized database system. The clinical team can now track their mortality and complexity following North American standards. For instance, the Chinese Cardiac program did 570 cases in 2006, 438 being open heart cases and 96 of them complex cases, with a total mortality of 1%. In 2007, there was a total of 743 cases, with 563 open.

The partnership provides an opportunity for members of the Chinese Cardiac team to come and train at BCCH. To this day, we are very pleased to

A team photo of the Chinese-Canadian Cardiac Sciences Partnership

report that 5 physicians, 4 nurses and 1 perfusionist have spent 3-6 months working with our Cardiac Sciences team here at BC Children's Hospital.

Another aspect of the mandate has been to help the Chinese team to develop a teaching program at Fudan University Children's Hospital. The purpose of this program was to choose an area of China needing a cardiac team, to enter in and collaborate with them, to bring physicians and nurses to Fudan University, to train and support them in developing and sustaining their program at home. Although the Cardiac team from Fudan University provides some training opportunities which previously have been without guidelines and standards.

The Canadian team has developed curricula and teaching guidelines for pediatric cardiology, pediatric cardiac radiology, pediatric cardiac anesthesia, pediatric cardiac surgery, pediatric perfusion, OR nursing and perioperative nursing and pediatric critical care. These guidelines were designed and modified to meet their needs from guidelines already developed, and a formal review of the guidelines will occur at our next trip in November. The Canadian team will remain involved in supporting the Chinese team in their quest to become a teaching program. I would like to take this opportunity to thank all of our Canadian and Chinese collaborators who have consistently supported the work of this partnership.

Dr. Jacques LeBlanc & a little friend

Partnering with our Honduran Neighbours:

A Community-Based Project in the Remote Villages of San Isidro and Santiago

By: Mr. Damian Duffy, Managing Director, OPSEI & Ms. Hayley Merkeley, Medical Student, UNBC

According to the World Health Organization, Honduras is the second poorest country in the western hemisphere. Due to the mountainous geography and lack of infrastructure in much of the country, the health needs of many rural communities are underserved. PRODIM (Programa para el Desarrollo de la Infancia y la Mujer) a Honduran NGO was founded in 1989 to improve access to basic health education and medications. During July, 2008, an interdisciplinary team from UBC and BC Children's Hospital partnered with PRODIM and two rural Honduran communities to achieve the following objectives:

- Conduct a nutrition, sanitation and reproductive health survey;
- Provide education about sanitation and reproductive health;
- Provide vital resources for infrastructure projects which were priorities of the communities.

Our team interviewed 90 women in their homes about their knowledge of nutrition; availability and affordability of nutritious foods; available water treatment and sanitation resources; incidence of diarrheal disease within their families; and knowledge and usage of family planning methods. Women responded both quantitatively and qualitatively, and were given 20 Honduran Lempiras (US $0.75) for their participation. Based on the women's responses, education sessions on hand-

The Honduran school children with the UBC team

washing, and reproductive health topics such as menstruation, various methods of contraception, and HIV prevention were given.

Interviewing women allowed them to share their perspective about the health needs within the villages. Men were often absent working as labourers in other regions of the country or across the border in El Salvador, thus women were most familiar with the needs of their families. Additionally, women were more likely to be in contact with health providers as they generally sought treatment in neighbouring communities with health centres when a family member was ill. Women were clearly very keen to learn more about health topics. Engaging women in health education and promotion may provide a successful means of improving the health of the greater community in UBC's partnership with Honduras.

Improved sanitation and diarrheal disease were not major concerns within families, and incidence of diarrheal illness was much lower than expected due to a treated water source. Some women were familiar with family planning methods, but many were not, or did not know how to access them. Many women had heard of HIV/AIDS yet were unfamiliar with how to prevent sexual transmission. The majority of women expressed a desire to learn more about reproductive and STI health topics. The results of the family health survey will greatly inform the planned activities of next year's student team. One unique aspect to this Global Health Initiative is that the 2008 team will play a peer-mentorship role in preparing the 2009 team to help ensure program continuity. On behalf of our GHI team, we would like to warmly thank the CARE-UBC International Learning Awards Program who provided us with nine travel grants; Dr. Jacques Leblanc who provided us with funding for essential project supplies; and to BC Children's Hospital Foundation who provided our project with toys and teaching supplies for the school children. Most of all, we would like to acknowledge our PRODIM colleagues who facilitated the collaboration between our team and the Honduran communities.

Ms. Jennifer Dunlop

The Amazing Operating Room Nurses of BCCH

New Operating Rooms at BC Children's

By: Ms. Jennifer Dunlop, Clinical Resource Nurse

The operating room nurses at BC Children's Hospital are quite a diverse group. Not only are we multi-national coming from as far away as Australia, New Zealand, The Philippines and Korea, but we are also new graduates, employed student nurses, and senior pediatric nurses. Operating room nurses are familiar with the need to keep pace with new technology and surgical techniques. At this time, we are looking forward to the much anticipated opening of the new Minimally Invasive Suite (MIS) and Navigational Suite. The MIS will support advances in Laparoscopic Surgery. With spring, we blossomed into a construction zone. This zone has limited access to our operating rooms, so we are all feeling a wee bit cramped! We are looking forward to the training that will be happening in a few weeks and anticipate the MIS will be fully functional by the end of the year. The time line for completion of the Navigational Suite is early 2009. This OR will be our largest and the technology associated with it can be compared to the way a global positioning system guides drivers to their destinations. The computer- assisted navigation will support less invasive surgeries performed with greater precision. All of these advances in technology translate to better care for children in need of high-quality surgical services at BC Children's Hospital.

Ms. Janice Penner, Dr. Douglas Johnston, Ms. Maryam Saeri

Provincial Ectodermal Ectodactyly-Clefting Syndrome & Ectodermal Dysplasia Program

By: Dr. Douglas Johnston, Head, Department of Pediatric Dentistry

In 2005, the Provincial Government of British Columbia provided annual funding of one hundred thousand dollars to assist families with the dental rehabilitation costs of Ectrodactyly-ectodermal Dysplasia – Clefting Syndrome (EEC) and Ectodermal Dysplasia (ED), group of rare genetic conditions.

Both these conditions have an inheritance pattern and express themselves dentally with missing primary and permanent teeth. Of the remaining teeth that develop, most will be conical in shape and without intervention, the developing occlusion will be inadequate, often subjecting the children to teasing due to their appearance. Affected patients suffer significant functional, psycho-social and social impairment as a result of these genetic conditions. The dental care that is required to reconstruct the dentition is complex and typically requires timely intervention specialists in orthodontics, pediatric dentistry, oral and maxillofacial surgery and prosthetics. Treatment may take years, but it can typically not be completed until the individual stops growing. Prior to the inception of this Program, optimal treatment plans were financially unattainable for most affected patients and their families.

The Program has been structured so as to additionally allow limited funding for patients with other confirmed craniofacial conditions, up to a lifetime limit of $15,000.

Suitability for funding is determined by the BCCH Pediatric Dental Department Head in consultation with the Cleft Lip and Palate/Craniofacial Team Members. Funding for the Program is managed by Ms. Maryam Saeri, the Pediatric Surgery Administrative Manager and Provincial Program Manager for Dentistry.

The above team is pleased to report that the Program has to date supported the care of 38 young patients across the province.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