UNIVERSITY OF TORONTO

THE surgical spotlight

ON ALUMNI, FACULTY, RESIDENTS & FRIENDS
OF THE DEPARTMENT OF SURGERY WINTER 2006-2007

"Just because you understand it, doesn't make it more true"

The First Bigelow Memorial Lecture

Bernie Goldman, Pixie Bigelow, Mehmet Oz, Richard Reznick, Tirone David and Hugh Scully (left to right)

The spirit of Bill Bigelow was invoked by Mehmet Oz as he emphasized Bill's intellectual humility about why some patients did so much better, and the role of spirituality as well as physiology and planning in the outcome of surgery. The magical name of Dr. Oz will never be forgotten by the residents to whom he particularly addressed his remarks. He stimulated them to wonder, to consider multiple perspectives. Starting from the current status of transcatheter repairs of mitral regurgitation and the use of minimally invasive surgical techniques, Mehmet took us forward into a future that explores the importance of quality of residual life after our surgical interventions. In his work with implantable ventricular assist devices, he came to know the importance of the *life role* of patients whose lives are prolonged by this intervention. He encouraged residents to look into the future of cardiac surgery, citing impressive evidence that patients reject surgery because of fear or distrust in the outcome which we value so highly based on physiological and other measurable outcomes. (Only 48,000 of the 2.3 million patients with mitral

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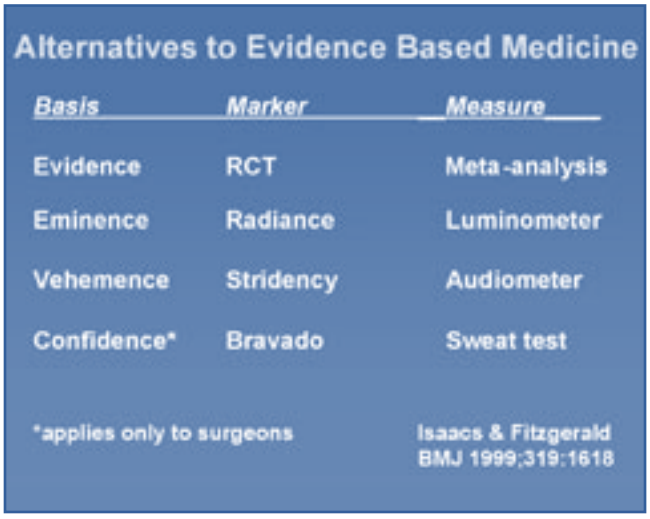
inside

regurgitation undergo surgery, 79,000 of the 125,000 with aortic stenosis.) The pool of patients who might benefit from surgical intervention is extremely large.



He advised residents to "meet and educate your patient and renew yourself to enable you to meet their needs". Though the term doctor implies teacher, scientist and healer, it is only the latter role that is greatly prized by patients. In his attempts to educate patients, Mehmet wrote the book *Healing from the Heart* which was spectacularly unsuccessful. Evidence alone is not sufficiently convincing. He introduced us to a new category to add to the alternatives to evidence based medicine. Derived from his own observations, the new category is Nervousness-based medicine which he ascribes to medical internists. In his patient education initiative, he uses the crime scene analogy. You don't call a detective to prevent or evaluate every crime. Similarly, we don't need doctors to deal with every health issue. By taking our keys out of the car and other practical measures we can minimize crime through practical preventive management.

Blending scientific observation with intuition and humility about the unknown aspects of healing, Mehmet describes the effects of music in the operating room. Using auditory evoked potentials, he was able to demonstrate awareness during open heart surgery. He influenced post-operative patient colour associations using intraoperative auditory input. Self-hypnosis and the hypnotizing effect of audio tapes during spine surgery leads to reduction in blood loss. Guided imagery leads to improvement in quality of life among congestive heart failure patients, even though standard physiological measures show no change. Even though we don't understand, these contradictions contain a truth just as Niels Bohr's complementarity theories about wave and particle formulations of light combine contradictory observations into an incompletely understandable truth. On Mehmet's cardiac surgical service yoga and massage are used as part of therapy for patients and for nurses. He is co-author of a recent study of prayer and intensive prayer on the outcome for surgery. (Krucoff MW, Crater SW, Oz M, et al. "Music, imagery, touch, and prayer as adjuncts to interventional cardiac care: the Monitoring and Actualisation of Noetic Trainings (MANTRA) II randomised study." *The Lancet* 366.9481 (July 16, 2005): 211(7).

Mehmet's best selling book *You: The Owner's Manual* has been outsold only by *Harry Potter*. Invoking advice from the Dalai Lama, with whom he recently presented a conference on aging, Mehmet recalled the spirit of Bill Bigelow who lived long, creating good karma. Though we don't understand how meditation and good will influence our telomerase and vagus nerve functions, we now know that these magical aspects of human physiology and spirituality can be altered in ways that we will someday understand. Bernie Goldman and Tyrone David reminded us of the spiritual leadership of Bill Bigelow and thanked Mehmet Oz for his clarifying pursuit of this mysterious and critical aspect of healing. Pixie Bigelow expressed her family's gratitude for this ideal memorial to her father's spirit.

A sample of Bill Bigelow's writing appears on page 20.

M.M.

ANNOUNCEMENT

Surgery Leadership Day will take place Friday, April 20, 2007 at the MaRS Collaboration Centre. Please contact your University Division Chair or Surgeon-in-Chief to apply. For a description of last year's program, see page 9 of the Fall 2006 edition of the Spotlight available at: http://www.surg.med.utoronto.ca/newsletter/Nov06.pdf

Critical Illness Insurance: A new benefit for full time faculty in the Department of Surgery

Richard Reznick

As you know, one of our strategic goals in the Department is to develop plans that are directly beneficial to the faculty. In the past few years, this has led us to work on the establishment of two programs that are now in place. The first was the development of our day care program, which is now being used by many faculty with young children. The second has been to provide a benefits package to faculty who are ineligible for traditional university or hospital benefits programs.

I am pleased to write about our newest and most comprehensive initiative to date. Following the theme of trying to use our limited departmental resources wisely, we are in the process of enrolling our faculty who are under age 57 in a critical insurance plan. All of our current full time clinical faculty and full time scientists will be eligible. The plan will be renewed annually until an individual reaches age 65.

LET'S HOPE THAT NO ONE NEEDS IT

We hope none of our faculty will ever need to redeem this benefit. But if a faculty member is diagnosed with any of the 18 diseases listed nearby, after thirty days, they will receive a lump sum of $60,000. Importantly, they will receive this benefit even if they have had a pre-existing condition in the twenty-four months prior to the effective date of the policy for one of these 18 medical problems, so long as the pre-existing disease happened twenty four months after the effective date of the policy. In addition, there is a ninety day exclusion for cancer. Individuals in our faculty will not be asked to fill out a medical questionnaire, nor will they require a physical examination or blood tests. These conditions are being waived because we are "bulk purchasing" the insurance for the entire Department. Of course, the Department of Surgery is paying for this program, with no financial costs for the individual faculty member.

THE DISEASES COVERED BY THE PLAN

Alzheimer's Disease	Life Threatening Cancer
Blindness	Major Organ Transplant
Benign Brain Tumor	Motor Neuron Disease
Coma	Multiple Sclerosis
Coronary Artery Bypass Surgery	Occupational HIV Infection
Deafness	Paralysis or Loss of Limbs
Heart Attack	Parkinson's Disease
Kidney Failure	Severe Burns
Loss of Speech	Stroke

Importantly, we have been advised that current tax law and precedent indicate that the premium for the benefit that will be afforded to our faculty is not considered a taxable benefit. Similarly, if an individual becomes eligible for a benefit and is the recipient of a cash outlay, that amount is not taxable at that time.

WHY THESE NUMBERS

We have chosen to make the age limit of faculty insured at under age 57. Similarly, we have chosen an expiration date of the policy at age 65. Finally, we have chosen a benefit sum of $60,000. There is nothing magical about these numbers. They really just represent constellation of figures that the Department can reasonably afford and at the same time, provide some tangible benefit to the 188 faculty who presently qualify. Although $60,000 is not an awful lot of money, it can provide a bridge for the often mandatory waiting period that many disability insurance plans have.

WHAT DO YOU NEED TO DO

You need not do too much to get enrolled. Of importance is the fact that we need to enroll the entire faculty for this arrangement to work. Faculty members should have received a letter from me along with an application form. The form asks only three questions: 1) Do you speak English or French; 2) Have you ever been denied critical illness insurance before and 3) Are you a smoker. Faculty members simply have to answer these three questions, sign, date and return the form to the Departmental office. If all goes as planned, shortly after March 1, 2007, you will be enrolled in the program and receive this benefit should you become ill. We hope that this benefit will be meaningful to our Faculty.

Richard K. Reznick
R.S. McLaughlin Professor and Chair

The System Helping the System: Valerie Zellermeyer Directs Perioperative Coaching Teams


Valerie Zellermeyer

Valerie Zellermeyer, Program Director, Perioperative Services St. Michael's Hospital, is Chair of the Ontario Wait Time Strategy Expert Panel that recommended the implementation of Perioperative Coaching Teams and is a member of the committee that oversees the creation of coaching teams to improve perioperative efficiency. The committee interviewed and hired approximately 25 coaches recommended by CEOs and other leaders in healthcare organizations. The coaches are physicians, vice presidents or senior directors responsible for surgical services, and operating room managers. All the coaches hired are experts in perioperative care and leadership who expressed positive attitudes towards the panel's recommendations and the coaching process -- as opposed to dictating solutions. They were not necessarily experts in coaching. So the committee hired coaching experts for two days of training to "coach the coaches".

Coaches generally do four to six visits a year. The oversight committee tailors each coaching team to suit the individual hospital's needs. The size of the team will vary depending on the hospital's size, but in general a team includes one physician, one or two program directors / VP level administrators and one operating room manager.

Approximately 30 hospitals have volunteered to be visited by a coaching team. The process began one year ago; the next stage in the cycle has just begun, when the leads from the coaching team return for a second visit. It's a learning process for the oversight committee. They have refined their tools and processes along the way and expect to do the same with the follow-up visits. A group from the Rotman School working with Brian Golden is developing the evaluation process.

Prior to a coaching team visit, hospitals submit documents including a list of what the hospital considers the five strengths of their perioperative practice, and five issues of concern. The hospital receives a detailed document listing characteristics of effective perioperative care, to which they are asked to compare themselves. They are asked to designate a project leader to organize the visit, usually a Director of Perioperative Care.

Typically on the first of a three-day visit, the coaching team tours the program, (preadmission, day surgery, postsurgical care, central processing, etc.) They conduct focus groups with nurses and physicians and detailed interviews with the day-to-day leaders in the program. They spend an hour with each group, get their feedback, then debrief at a working dinner.

On Day Two the team divides into two groups. One goes into the operating room and central processing to see more. The other group begins to write up what they have learned, so that 80% of the paperwork is completed before the visit is over. Initial findings are left with the CEO. On the second afternoon, they meet with an interdisciplinary perioperative team and set five or six priorities for developing action plans.

On Day Three, the coaching team works with the hospital team to develop these action plans in detail. For example, a hospital may have a problem with flow of patients from preoperative staging to the operating room and out to recovery rooms, a problem that is the result of old fashioned practices like putting patients who are capable of walking on stretchers. Rather than telling hospitals what to do, the teams encourage them to think about and map their processes to see whether they match what they are trying to achieve.

The coaching teams have learned that a common problem for many hospitals is interdisciplinary leadership. Few ORs have a coordinated interdisciplinary team that takes responsibility together for leadership in perioperative programs. This was a number one recommendation from the expert panel report: hospitals need a physician lead and an administrative lead working together, rather than in opposition, driving an interdisciplinary practice with the same goals.

The coaching team develops four documents per visit, copies of three go to the Ministry of Health. The one in which the hospital compares itself to the ideal, stays with the hospital as a tool for them to work with. The action plan names a most responsible person and includes a time-frame; hospitals are expected to report on this plan when the coaching team makes its return visit. On the first follow-up visit, the chief of staff had been replaced -- as recommended by the team -- and a supply chain problem had been sorted out so that the hospital was able to accept more wait time cases and accompanying funding.

Response to the teams has been enthusiastic. The coaches are learning, and catalyzing helpful communication between organizations with similar problems, a good example of Minister Smitherman's premise "the system helping the system". Often the solutions to problems exist in the system, but they have not yet had the forum or ability to influence change.

Born in New Zealand, Valerie has spent most of her life in Canada. She has had a distinguished career at St. Michael's Hospital. While she has taken on a number of leadership roles, she always keeps one foot in the operating room. She worked with Alan Hudson for many years in the neurosurgery operating room. She has two adult children and enjoys skiing. She is enjoying her work with the coaching teams, particularly collating the information to create benchmark targets.

M.M.

"Unlike teams, working groups rely on the sum of 'individual bests' for their performance. They pursue no collective work products requiring joint effort. By choosing the team path instead of the working group, people commit to take the risks of conflict, joint work-products, and collective action necessary to build a common purpose, set of goals, approach, and mutual accountability. People who call themselves teams but take no risks are at best pseudo-teams."

From *The Wisdom of Teams: Creating the High-Performance Organization* by Jon R. Katzenbach and Douglas K. Smith. New York: Harper Collins, 2003.

Coaching Critical Care as an Organized Element of the Health Care System

Tom Stewart

Managing critically ill patients consumes up to 30% of hospital budgets. The 80 patients who required Critical Care over a three-month period during SARS collapsed the Critical Care system of Toronto. Some asked "should we cancel elective heart surgery for the next three months in order to meet this challenge?" Tom Stewart, Director of Critical Care Medicine at UHN and Mt. Sinai Hospital, has been advising the Ministry of Health since SARS to strengthen Critical Care as a system and, among other things, develop its surge capacity. Several initiatives are underway that focus on improving access to Critical Care, both now and in the future, ensuring it is safe and of high quality, and encouraging the system to work as a true system, rather than through the silos of institutions. Roughly $110 million has been allocated by the Ministry to transform Critical Care in the province.

Currently, Critical Care is not functioning as a system; ICUs are isolated from patients who are critically ill in ambulances, the operating room or the emergency room. The integration of the network between hospitals is remarkably weak. Ideally, the ICU is not a silo; it should be linked to every part of the care system, including rehabilitation hospitals. "Critical Care should be seen as a system of care, rather than a unit."

The wait-list initiative came as a bonus to the campaign to strengthen the Critical Care system. If current demand continues with the growth of the population, we will need 30-50 new ICU beds per year, each year through 2026, just to keep even with current needs. Given the costs associated with running an ICU bed (estimated at $1.0-1.5 million annually) this additional investment is not sustainable. The Critical Care transformation strategy is aiming to mitigate this demand for additional beds. Even if the money was

available, the human resources are not. For example, prior to the transformation strategy, the supply of intensivists (specialists trained in Critical Care) was stable, but the demand was rising. ICUs managed by intensivists have been shown to reduce costs, length of stay and morbidity/mortality. As a result of growing demand, Ontario's ICUs are pushed, with a downstream effect on all areas from which ICU patients are sent – including the OR. For example, the UHN / Mt. Sinai system is always at 95%-plus occupancy, far above the 75% occupancy that is recommended to insure flexibility and surge capacity.

The Institute for Healthcare Improvement "program to save 100,000 lives" in the US has been another boost to the efforts to transform Critical Care in Ontario. One of the most important steps in this Harvard-based initiative, led by Don Berwick, has been calling ICU-based rapid response teams when a patient develops problems in the hospital. The team immediately contacts the attending physician as they go to the site where a patient is getting pale, hypoxic or tachycardic. They call the attending surgeon or physician so that their interventions become a teaching session, rather than an isolated expert consultation. The rapid response team discusses end-of-life care when they respond so that patients will not be immediately intubated and sent to the ICU when it's not appropriate, as too often happens. Such teams have been shown to mitigate demand for ICUs and have a positive impact on overall hospital care. The idea of rapid response teams came from the United Kingdom and Australia through the US to Canada. Each rapid response team in Ontario costs about $1 million per year to run -- arguably a modest investment given overall ICU costs.

Part of the transformation strategy involves meeting provincial educational needs in regards to Critical Care. To achieve this, the program has partnered with the Canadian Resuscitation Institute in Ottawa. There are also 6 coaching teams made up of multi-disciplinary individuals from the field who have already been deployed to over 40 institutions in the province during 2006. The coaching teams advise hospitals on things such as end-of-life decision making, patient flow, Critical Care organization, surge capacity planning, leadership / team building, and creating an intensivist-led model.

January 2007 will see the roll-out of a new performance measurement system, under the direction of UHN e-Health Coordinator Matt Anderson. Institutional report cards will be created and reviewed by a provincial leadership group who will provide feedback, use the data to drive transformation forward, mobilize coaching teams and advise on the strategic placement of resources in order to create the integrated system necessary. Data and financial investments will be used as levers to drive change.

The transformation initiative was informed by a report from the Ontario Critical Care Steering Committee chaired by UHN CEO Bob Bell and Lynda Robinson – former Manager of Critical Care at London Health Sciences Centre. The Steering Committee emphasizes access, accountability, surge capacity, human resources, technology assessment and funding. Alan Hudson – Lead, Ontario Wait Time Strategy – then put this report into operation by utilizing an expert panel in Critical Care. The Hudson mantra for implementing the recommendations of the steering committee is: "Transform first, build later". Translation: no money flows into broken machines. The system should be revised, renovated, organized and then the funds come. Important guidelines include eliminating silo thinking, improving access and improving quality, measured predominantly as improved safety. Responding to the Bell Report, Health Minister George Smitherman awarded $100 million to the Critical Care strategy via the Wait Times initiative, as recommended by strategic planning consultant Joann Trypuc

There is now a Critical Care leader for each LHIN. These leaders comprise the provincial leadership table which is driving the transformation forward. Tom Stewart chairs this table. This table will report to the MOH-LTC and to local LHIN CEOs. They are advisory in nature and will oversee accountability agreements in regards to Critical Care investments. The entire strategy is supported by a provincial Critical Care secretariat that is physically at UHN and led by Robert McKay who reports to Bernard Lawless within the MOH-LTC. The results of the entire strategy to date are impressive. Hugh MacLeod, the Assistant Deputy Minister of Health System Accountability and Performance, recently summarized the Critical Care strategy's accomplishments as follows:

- Critical Care Response Teams are now in 27 hospitals and 300 RNs/RTs have been trained to support the teams
- 6 multidisciplinary peer coaching teams have been trained, and 40 coaching team visits completed
- A paper on ethical issues of access and end-of-life care is complete; Critical Care admission and discharge guidelines will be ready in early 2007
- A Critical Care information system commences January 2007 at 10 hospitals
- Intensivist training opportunities have increased from 8 to 18
- An E-learning Training Program is in development with the MOH Nursing Secretariat; hospitals will receive $4.5 M in funding to train more Critical Care nurses
- LHIN based Critical Care leads have been established

M.M.

Translating Lost Knowledge to Improve Treatment of Colon Cancer

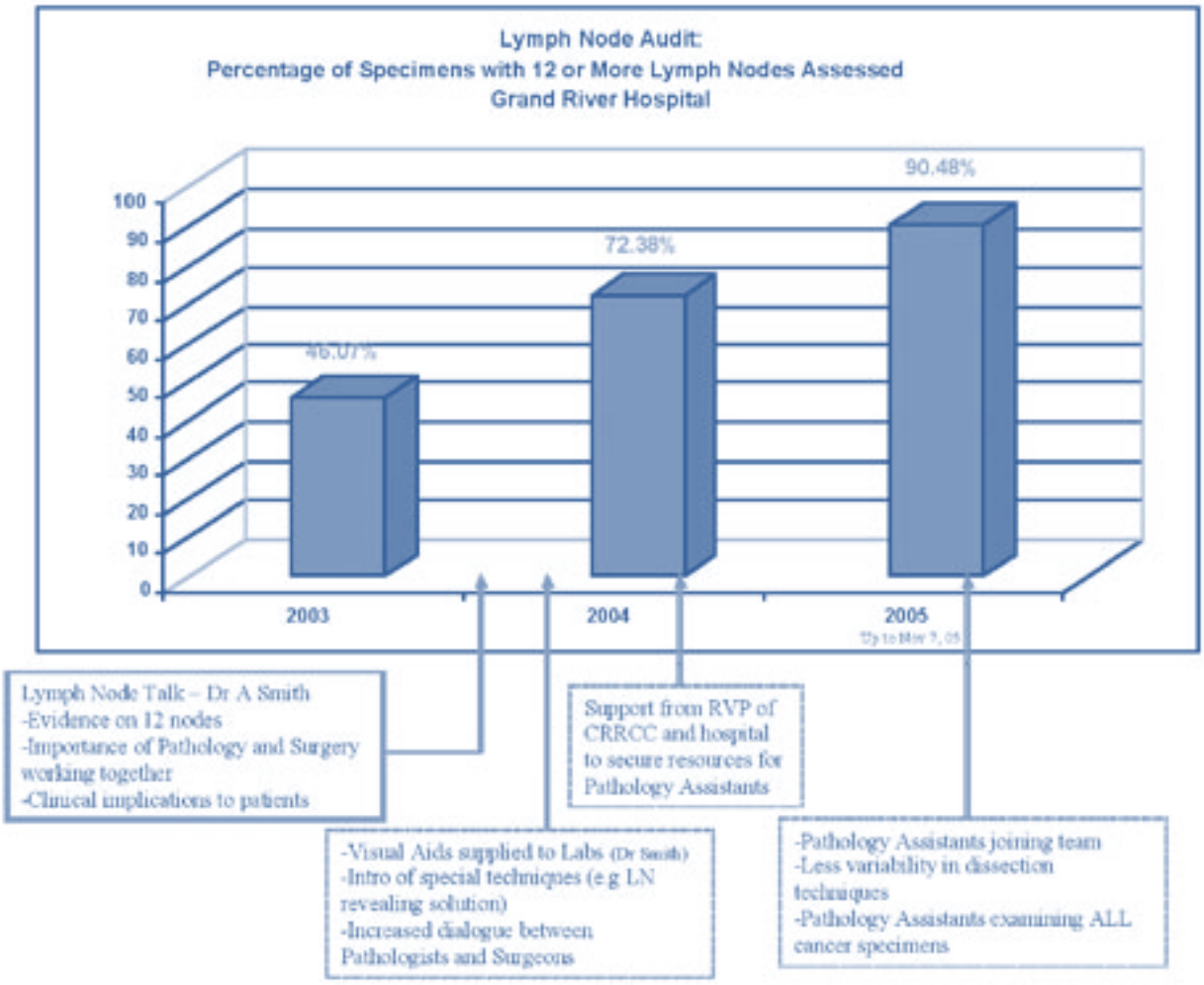
"The vertical and lateral translation of what is already known is remarkably slow in medicine." – Dave Davis

As a first year staff surgeon several years ago, Andy Smith saw a young patient with a T3N0 (full thickness, but node-negative) colon cancer. His resident Calvin Law asked a penetrating question, as residents often do: "How many nodes do you have to look at before you can say 'the nodes are negative'?" This began a search for standards that led to a dramatic and highly effective multidisciplinary effort to improve the quality of colorectal cancer treatment and care. Working with Andy now as a staff surgeon and colleague, Calvin looked at the records of 399 cases of resected colon cancer. Three-quarters didn't qualify by the recommended international standard -- that

Frances Wright, Calvin Law, Andy Smith and Linda Last (left to right)

at least twelve nodes should be examined. This is a crucial requirement -- if 12 nodes are negative, the patient can be spared from chemotherapy. This was a classic example of knowledge lost in translation. Standards established and agreed upon in one sphere are not translated into the sphere of active practice. In Dave Davis's course in Knowledge Translation, CHL5609H, Andy learned the importance of the influence of opinion leaders as described by Hiss and psychologist David Ryan (J Contin Educ Health Prof. 2004 Fall;24(4):213-26). Knowledge may accumulate but fail to reach the tipping point where it influences practice until an opinion leader crystallizes the knowledge into a meaningful lesson.

During her fellowship with Andy and colleagues, Frances Wright reviewed 8848 cases of colon cancer resected in Ontario. She found that 77% of specimens had fewer than 12 nodes sampled. Working with Frances and Cal, the team then put together a grant-supported randomized trial to change practice through leader visits and the development of local opinion leaders who fulfilled the Hiss definition of educationally influential physicians. EIPs are identified by their colleagues as people who (1) encourage learning and enjoy sharing their knowledge, (2) are clinical experts and always seem up to date, and (3) treat others as equals. Following the intervention, the team demonstrated that the standard of 12 lymph nodes or more was met in over 60% of cases, as illustrated in a nearby graph. The group developed an academic focus on knowledge translation, recognizing that guidelines generally don't work and information does not change behaviour -- leadership changes behaviour. Building on the lymph



node story, the group is now working to develop multidisciplinary conferences at hospitals throughout the province. Opinion leader and surgeon Mike Anderson in Barrie, a Gallie Program graduate, runs multidisciplinary teleconferences that are highly effective in his practice area. A community of practice can be built and made effective through well-planned collaboration. This project is a superb demonstration of the collaborator role described in the CanMEDS competency framework. Starting on January 4, 2004 Andy toured 42 institutions in Ontario beginning in North Bay. His theme was very well-accepted because he began with the statement "when we looked at our results, we found we were terrible -- and we fixed it". There are many surgeons now around the province who are raising awareness and changing practice through leadership. Craig McFadyen, now the Director of Surgical Oncology at Kitchener-Waterloo is one of these leaders.

On November 23, Andy, Calvin, Frances, Anna Gagliardi and Linda Last were honoured with the inaugural Cancer Quality Council of Ontario (CQCO) Quality Award in the team category for their outstanding work in knowledge translation and coordinated improvement in colorectal cancer practice and outcomes. Andy is now working on longitudinal mentoring of surgeons in laparoscopic colectomy in order to help surgeons fulfill the guidelines that recommend 20 mentored cases. The program is sponsored by Cancer Care Ontario but implemented by the Ontario Association of General Surgeons, a remarkably effective demonstration of quality improvement through a surgical organization. John Hagen at the Humber River Regional Hospital is an important mentor who encourages surgeons to bring their cases to the Humber River Hospital where he schedules several cases in a day and helps the surgeon to perform

Andy, Sharon, Danielle and Jonathan

them. His generosity of spirit and enthusiasm for teaching are outstanding.

Andy was born in Bowmanville, the eldest of five brothers. His younger brother David is an outstanding laparoscopic surgeon who taught Andy laparoscopic colorectal resection technique and assisted him in his first operation as an attending surgeon. His wife is Sharon Sharir, a urologic oncologist at Sunnybrook, who grew up in Israel. They work together on complex exenterations. They are pictured here with their children, Jonathan, 7 and Danielle, 6.

M.M.

"Can you hang on a sec? I think I just took another picture of my ear."

Studying Quality of Life to Assess Outcomes after Surgery

David Urbach

George Armstrong Peters was described by William Gallie in a *Canadian Journal of Surgery* profile as "the best surgeon and surgical teacher I ever knew".[1] An avid horseman and innovator, Peters achieved wound closures with subcuticular horsehair that were "the pride of the hospital". He served in the department from 1892 to 1907 -- by then, Lister's carbolic acid sterilization of absorbable sutures was widely accepted.

The George Armstrong Peters Prize honours younger surgeons in our department who have sustained continued productivity in scientific research. David Urbach won the prize for his scholarly epidemiologic studies of achalasia, quality of life after surgery, and surgical innovations. Achalasia is a rare condition for which treatments vary widely. Which treatment is best? Dave used decision analysis comparing four of them, but it was difficult to answer the question since there were no good outcome measures for the condition. Dave concluded that it would be impossible to decide on the best treatment until it was possible to define "improvement" or "a good outcome" for patients. He used administrative health data from Ontario (CIHI, OHIP, ODB and other databases). He attempted to discern from these data whether surgery was better than balloon dilation. The advantage of this method was the ability to look at a very large number of patients, unlike most clinical studies. Since the data are population based, the selection bias that can occur in a specialized centre is eliminated. There were two principal findings. Unsurprisingly, there was high risk of retreatment (60%) for patients treated with pneumatic dilation. More surprising was the observation that about 30% of patients who underwent surgical myotomy required subsequent interventions over the

same time period, a finding the clinical literature did not report. By linking to the Ontario Drug Benefit data he was able to show that the choice of procedure made no difference whether or not patients over 65 took antireflux drugs, as approximately 75% of both groups did.

He then developed a quality of life measure for achalasia using item response theory -- a theory which states that you can't actually measure quality of life, but you can estimate the concept. Typically it is estimated by asking respondents questions about aspects of their life, to derive their underlying concepts of its quality. Using their quality of life measure for achalasia, Dave and his team asked patients what it would take for them to undergo a surgical procedure to improve their condition -- e.g. what kind and degree of improvement would be necessary for them to agree to an operation. Using the resulting measure, they have moved on to a five year, multi-centre controlled clinical trial of treatment.

Dave has also done research to develop a quality of life measure for patients recovering from abdominal surgery. Starting with existing measures like the SF-36 and Nottingham Health Profile, he and his team interviewed patients about what was important to them during recovery. One of the surprises was the importance of sleep disturbance in the post-operative period. They also found an interesting difference: men were concerned about who would take care of them, while women were concerned about who would fill their role taking care of someone else.

For the last few years, Dave has been studying innovative surgical technology -- procedures like endovascular aortic aneurysm repair, laparoscopic surgery, sentinel lymph node biopsy, and outpatient brain surgery. He focuses on the processes by which these new procedures are adopted by hospitals and is developing a tool kit for hospitals to use as they adopt new technology in the future.

1. Gallie WE. George Armstrong Peters (As I Remember Him). *Canadian Journal of Surgery*, Jan. 1959;2:119-122.

M.M.

The Hedgehog and the Ewe

Benjamin Alman

Joseph Lister worked patiently on controlling the development of osteomyelitis in open fractures through application of the scientific method. He knew Pasteur's method of using heat to kill bacteria would not be safe, so he experimented with antiseptics. The Lister Prize is awarded to a senior investigator in our department who has shown outstanding and continuing productivity of international stature. This year's winner is Ben Alman, who has been working patiently to control bone tumours in children. Here's how Ben told the story at a recent University Rounds.

Normal bone development is controlled by genetically orchestrated signaling pathways. Sometimes they are deregulated resulting in growth abnormalities. When the cartilaginous precursors of mature bone fail to undergo programmed cell death, the chondrocytes become benign enchondromas. The genes regulating this differentiation are part of a signaling pathway named "hedgehog" by lab geeks because their mutation in Drosophila makes the fruitflies look like the Atari computer game character "Sonic the Hedgehog". This whimsical name now appears often in the genetics literature because the pathway is widely distributed in nature, from flies to humans. Other similar pathways have been given authentic species names like Desert Hedgehog and Indian Hedgehog. They play a pivotal role in a variety of human cancers.

When the mutation is introduced in mice, reactivating the hedgehog pathway, they develop enchondromas. Interestingly, the joint surface cartilage also becomes bumpy, resulting in osteoarthritis. In human osteoarthritis, the hedgehog pathway is also activated. These findings suggest that blocking hedgehog signaling can be used to treat cartilage tumours, and could be used to modulate the severity of osteoarthritis. Work from Ben's lab using genetically modified mice suggests that this is indeed the case.

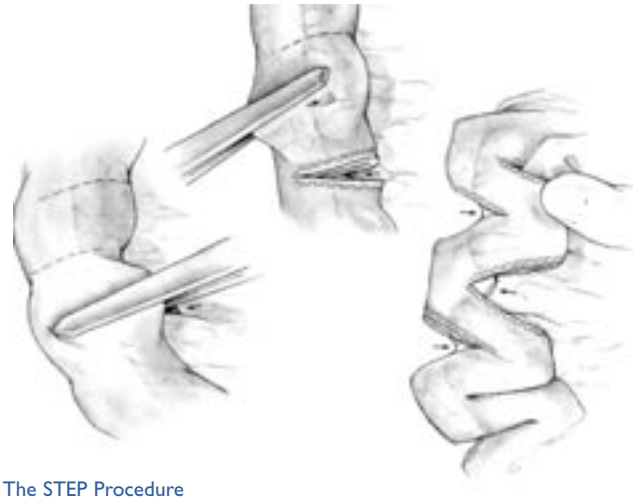
Pregnant ewes that are exposed to a weed called *veratrum californicum* give birth to lambs that are severely deformed. The active ingredient in the weed, cyclopamine, was found to specifically inhibit hedgehog signaling, and it is the inhibition of this signaling pathway that causes the deformity in the offspring. The ewes are unaffected because their bones are fully developed and their hedgehog genes are not active -- because cyclopamine affects the developing fetus and not the mature ewe ingesting the plant, this agent has a potential role "inhibiting hedgehogs" to treat cartilaginous tumours, or osteoarthritis. Ben discussed the creative synergy among basic and clinical scientists that leads to new knowledge like this. He praised the fertile environment the university community provides for its development. Lister and Pasteur would have enjoyed this grand rounds.

M.M.

Traveling to Share Surgical Knowledge

Jack & Ferne Langer

The James IV Association of Surgeons was founded in 1957 by Scottish, English and American surgeons to facilitate trans-Atlantic sharing of knowledge about surgical standards, practice and research. The association is named after James IV King of Scotland (1488-1513) who was a champion of scientific research and an able surgeon. He was known to have paid his subjects to allow him to operate on them! The association now includes members from all over the world. Its primary function is to sponsor surgical travelers to exchange surgical knowledge and develop the kind of friendships that were responsible for the association's founding. Each year, the association chooses four to five surgeons to receive a James IV Traveling Fellowship. Candidates are nominated by surgery chairs. The Canadian James IV Committee chose Jack Langer as this year's Canadian recipient.



The STEP Procedure

Jack will travel to New Zealand and Australia for three weeks in February, and to Continental Europe and the United Kingdom for three weeks in July of 2007. He will take his wife Ferne and his son Alexander with him for the New Zealand portion of his travels. There he will visit the paediatric surgical service of Philip Moreau, one of the preeminent paediatric surgeons in Auckland. In Wellington, he will visit one of the pioneers of fetal surgery, Kevin Pringle. In Christchurch he will visit Spencer Beasley, who has done seminal work on the etiology, embryology and long-term follow-up of patients with esophageal atresia. In Adelaide, he will visit Hock Tan, a leader in minimally invasive paediatric surgery. John Hutson, a surgeon scientist in Melbourne has studied motility disorders in which Jack has a special interest. Hutson has also studied the hormonal control of testicular descent. Previous James IV Traveling Fellows from our department include Richard Reznick, Robin McLeod, Steve Gallinger, David Grant, Paul Walker, Wayne Johnston and Donald R. Wilson.

The work for which Jack has been recognized is focused on Hirschsprung's Disease -- he developed the transanal minimally invasive pull-through operation. He has meticulously studied the small percentage of children who have persistent or unresolved symptoms following surgery for Hirschsprung's Disease. He introduced the use of Botox to relax the spastic anal sphincter, instead of a sphincterotomy; this allows the children to learn to accommodate over time. This treatment has also been used for spastic sphincters associated with achalasia and anal fissures. Jack is an innovator in minimally invasive surgery, helping to develop minimally invasive

approaches to Hirschsprung's disease, malrotation, and splenectomy. The group at SickKids is participating in a multicentre randomized trial of minimally invasive Ramstedt pyloromyotomy. He has edited a textbook of evidence-based minimally invasive paediatric surgery.

Jack is proud of his division. Annie Fecteau has become a leader in paediatric surgical ethics; she chairs the ethics Committee for the Canadian Association of Paediatric Surgeons. Her ethics curriculum is being widely adopted in paediatric surgical training programs throughout North America. Peter Kim has developed a Fetal Alert Network for thorough longitudinal studies of fetal anomalies in Ontario. Paul Wales established the Group for Improving Intestinal Function and Treatment (GIFT), whose outcome research studies include a thorough analysis of the serial transverse enteroplasty (STEP) operation for short-gut syndrome developed by H.B. Kim et al. (*J Ped Surgery* March 2003: 425-429.) Ted Gerstle is an active contributing member of the Children's Oncology Group, and Priscilla Chiu is conducting laboratory research with stem cell pioneer John Dick. Georges Azzie, recently recruited from New Mexico, has a strong interest in education and international surgery.

An important development in the Division of Paediatric Surgery has been the Collaborative Program with North York General Hospital -- a link fostered by Surgeon-in-Chief Stan Feinberg -- in which Noelle Grace and Sharifa Himidan oversee a burgeoning program in community paediatric surgery. Jack, Georges, Annie and Ted also operate at North York General, and they are developing a one year training program for general surgeons who will have a subspecialty focus on paediatric surgery, managing the large volume of patients who do not need to be referred to a children's hospital for uncomplicated surgical treatment of routine problems such as hernia repair and appendectomy. Jack has done extensive outcome studies in collaboration with Teresa To, Director of Population Health at Sick Kids using CIHI and ICES data, and has done volume-related proficiency analyses of hernia repair, appendectomy, pyloromyotomy, and other pediatric surgical procedures performed in the community.

Jack is grateful to his wife Ferne and his children for the support that enabled him to accomplish the achievements recognized by this award.

M.M.

Scientists in Surgery

Approximately 15% of our surgical faculty are individuals who are non-MDs and work as full time scientists. These individuals are significant contributors to the research effort of our Department. This section will endeavour to profile excellence in research among the scientists in our Department.

Anne Agur

Anne Agur started her university education with the goal of becoming an occupational therapist. However, her anatomy professor Rita Harland-Smith sparked a passion for subject that turned her towards an academic life. On completing the program in occupational therapy, Anne enrolled in the Master's Program in Anatomy under the supervision of Ian Taylor. When she finished her degree in 1979, she was hired as a Lecturer, and quickly established herself as one of the teaching masters of the Faculty, winning two Whittaker Awards, an Aikens Award and the SAC-APUS Teaching Award in a university-wide competition. Because of her growing reputation as an educator, Anne was asked to become Co-editor of *Grant's Atlas of Anatomy* in 1991. In 1995, together with Keith Moore, she published *Essential Clinical Anatomy* which has become one of the most widely adopted anatomy texts for students in medicine and the allied health professions. These contributions have established Anne's reputation world-wide.

Throughout her career, Anne has been involved in a variety of research projects, often in collaboration with other faculty in the Department of Surgery. In 1995, she began a Doctoral Program in the Institute of Medical Science under the supervision of Nancy McKee. Her research has pioneered a novel approach to the study of skeletal muscle structure and function that permits capture and digitization of the external shape of a muscle as well as the internal architecture, including fibre-bundle, vascular, and innervation patterns in 3-dimensions. By assigning dynamic properties

to the digitized fibre bundles, Anne hopes to further the understanding of individual muscle structure and function with a view to advancing strategies for treating muscle trauma and disease. Since completing her Doctoral Program in 2001, Anne has established her own busy research laboratory in the Division of Anatomy and has established rich collaborations with colleagues in the basic sciences, Computer Science, Engineering and the clinical sector. In recognition of her anatomical expertise she was appointed Co- editor of *Clinical Anatomy*, The Journal of the American Association of Clinical Anatomists in 2003. As a full member of the graduate faculty of the IMS and the Graduate Department of Rehabilitation Science, she supervises 3 masters and two PhD students. She is a member of numerous advisory committees for graduate students not only in medicine but from other faculties, and universities as well.

Anne's current research into digital modeling of muscle structure and function makes her somewhat unique among Canadian anatomists in that she focuses on gross anatomy rather than cell, developmental, or molecular biology. She is one of the few teachers of human gross anatomy who can readily inform her teaching with the insights gained from her research studies. The enthusiasm for research that Anne brings to her classes has inspired many undergraduates to undertake research projects under her supervision. Many of these students have subsequently gone on to pursue graduate studies.

Anne is known to students in anatomy courses worldwide for her publications. Our own students know her as one of the finest teachers in the faculty. For many years, she has contributed in excess of 300 hours per year of classroom and laboratory teaching. She has been the Director of the Program of Advice and Support for Students (the 'PASS' Program) since 2001. Throughout her career, Anne has shown exceptional commitment to supporting students in the process of learning, a commitment recently recognized with her second Aikens Award for Individual Teaching Performance. Rita Harland-Smith would be very proud.

Michael J. Wiley
University Division Chair, Anatomy

NEW STAFF

The Department of Surgery warmly welcomes the following individuals who have joined our Department.


Teodor Grantcharov

We are pleased to announce the recruitment of **Teodor Grantcharov** to the Division of General Surgery at St. Michael's Hospital. Originally from Bulgaria, Teodor completed a Doctoral Degree in Medical Sciences at the University of Aarhus in Denmark and his surgical residency at the Copenhagen University in 2005. He then completed a fellowship in minimally invasive surgery at the Western Pennsylvania Hospital, Temple University School of Medicine in Pittsburg. Teodor's clinical interest is the area of minimally invasive surgery, with a focus on foregut disease including cancer. His area of academic interest is in the field of surgical simulation. He has become internationally recognized as a leader in this area with a focus on virtual reality computer simulation as a tool for training and evaluating skills in laparoscopic surgical skills. Please join us in welcoming Teodor and his family to Toronto.

Avery B. Nathens
Hospital Division Head, General Surgery
St. Michael's Hospital

Karen Johnston received her BSc, PhD and MD from the University of Toronto. Her PhD was in the Department of Anatomy with Jay Connelly as her research supervisor. She completed her residency in neurosurgery at McGill University in 1995, then joined the neurosurgery faculty there. She was Director of Neurotrauma at McGill 1999-2003, and Director of the Concussion Program at the McGill Sports Medicine Centre from 2003-2006.

Karen's specialty is in the field of brain injury. Much of her clinical and research practices focus on sport head

injury and concussions in athletes. She is an international neurosurgical consultant to professional and amateur sporting groups including the National Hockey League, NHL Players Association, Canadian Football League, national and international Olympic teams. She has been Chair of the Concussion in Sport Group of the International Ice Hockey Federation, Federation International Football Association and the International Olympic Committee, and has been a member of the Board of Directors for the Canadian Academy of Sport Medicine. Her academic activities include numerous publications in both clinical and research aspects of concussion, and commencing January 2007 she becomes Director of the Concussion Program at the Toronto Rehabilitation Institute, member of the University of Toronto Departments of Surgery and Neurosurgery. She has an extensive community involvement in concussion education and prevention and is Vice President on the Board of Directors for the THINK FIRST Prevention Group as well as numerous sport safety committees. In 2005 she received the prestigious Pashby Sport Safety Award and was honoured by the Canadian Sports Hall of Fame.


Karen Johnston

We welcome Karen to Toronto.

James Rutka
University Division Chair, Neurosurgery


Veronica Wadey

In January 2007, **Veronica Wadey** joins the Holland Orthopaedic and Arthritic Institute as a Surgeon Investigator. Veronica has Undergraduate Degrees in Physical and Health Education and in Education, and a Masters Degree in Athletic Therapy. She was an athletic therapist with Canada's Olympic Men's Volleyball Team for six years before entering medical school at the University of Calgary. She completed her training in orthopaedic surgery and followed this with research at Stanford University in designing a core curriculum for orthopaedic surgery, as well as clinical research into adult reconstruction of the hip and knee. She completed a second clinical fellowship at Laval University in Quebec in soft-tissue knee reconstruction. Her current research evaluates gait and the rehabilitation approach to musculoskeletal disorders directed towards health system improvement and clinical outcomes in joint reconstruction surgery. Veronica is Director of the MSK Curriculum Project for Bone and Joint Decade Canada. She also continues her collaboration with colleagues from Stanford in the development of a nation-wide core curriculum for orthopaedic surgery in the United States.

Hans Kreder
Hospital Division Head, Orthopaedic Surgery
Sunnybrook Health Sciences Centre

CORRESPONDENCE/ FAMILY NEWS

Letters to the Editor are welcomed to keep the community informed of opinions, events and the activities of our surgeons, friends and alumni. Please send us birth and marriage announcements with photographs, as well as any other family news you would like to share with the Department of Surgery community.

IN MEMORIAM

Carolyn Hutton Finn, RN, wife of Bill Finn, formerly Deputy Chief of Surgery, Hamilton General Hospital, died in August 2006 at the age of 68 of complications of diabetes. She was a very special woman with an omnipresent smile and an effervescent personality. She was much loved, admired and respected by all who knew her.

Bill Finn

Coaches and Teams


Martin McKneally

We often say that "surgery is a team sport", but formal training in coaching and teamwork is exceptional in medicine and surgery. Successful sporting teams are not uncoached "pick-up teams" assembled just before the game. They practice, analyze, critique and review performance to develop excellence through tacit knowledge -- the knowledge, deeply ingrained by experience, that is not readily communicable in words. The most valuable player in professional basketball, Canadian Steve Nash, does not need to explain to his championship winning teammates that they should be ready for his no-look pass that will assist them to another score. Tacit knowledge is prized in surgery, but team stability and excellence in synergistic communication are often the exception rather than the rule. Lorelei Lingard has done excellent research on this. (1-3) I suspect that because ad hoc "pickup teams" must be formed for emergencies, we tolerate and encourage unpredictable diversity in elective cases as a component of routine surgical care. "Oh, you're giving anaesthesia?" "Who's scrubbing today?" The fallacy that this practice is a useful requirement for everyday teaching and learning is embedded in academic institutions.

In what has become a classic paper, a management group analyzed team interaction during the learning curve for minimally invasive cardiac surgery at sixteen hospitals. (4) Their keys to success in real time learning are summarized in a nearby table. Those who learned the procedures the most rapidly had leaders who actively coached their team's learning effort. Surgical experience, educational background, top management support, status of the surgeon (clout and ability to make things happen) debriefs, project audits, after-action reports, didn't affect the success or failure of the team.

In a team ethics talk at a multi-disciplinary cardiac surgery / anaesthesia / perfusion conference, I showed a video clip of the Philadelphia Orchestra withYo-Yo Ma in a vigourously animated performance of Beethoven's Triple Concerto. In his enthusiasm, Yo-Yo and his cello toppled backwards off his platform into the second violins. They noiselessly lifted him back as he continued to play, never missing a note. It was tacit knowledge and team play at its best. As I practiced this part of my talk with my wife Deborah, who plays in chamber orchestras and string quartets, she remarked how much practice it takes for musicians to achieve"performance level", then asked "When do surgeons practice? …you seem to just perform." A recent innovation, the surgical minute, a brief rehearsal of the strategic plan and tactical steps of the operation just before it begins, is a small but important step in the right direction. Simulators have also been introduced recently to skills laboratories for teamwork training exercises. (5)

I believe that the coaching approach described in this issue to improve the performance of the healthcare system, and the emphasis on institutions working together as teams to improve performance are very encouraging developments. Our colleagues are being coached to practice surgery as a team sport.

TABLE: Keys to Success in Real Time Learning

Keeping the team together rather than allowing substitutes.
Choosing team members who are open to suggestion and competent in offering and receiving advice, even against the authority gradient.
Neutralizing the fear of embarrassment.
Recognizing that the inherent stress of a new procedure should facilitate learning.
Using robust back and forth communication to draw lessons from the process while it is underway.

(1) Lingard L, Reznick R, Espin S, Regehr G, DeVito I. Team communications in the operating room: talk patterns, sites of tension and implications for novices. *Academic Medicine.* March 2002;77(3):232-237.
(2) Lingard L, Reznick R, DeVito I, Espin S. Forming professional identities on the healthcare team: Discursive constructions of the 'other' in the operating room. *Medical Education.* Aug. 2002;36(8):728-734.
(3) Lingad L, Espin S, Whyte S, Regehr G, Baker GR, Reznick R, Bohnen, J, et al. Communication failures in the operating room: an observational classification of recurrent types and effects. *Qual Saf Health Care* 2004;13:330-334.
(4) Edmonson A, Bohmer R, Pisano G. Speeding up team learning. *Harvard Business Review*, Oct. 2001, p.125-132
(5) Reznick R, MacRae H. Teaching Surgical Skills -- Changes in the Wind. *NEJM* 2006; 355: 2664-2669.

Martin McKneally
Editor

Richard Reznick Wins President's Teaching Award

David Naylor initiated the President's Teaching Awards when he was installed last year. Winners become members of the university's new Teaching Academy, an honour comparable to the title of University Professor -- our highest level of recognition for scholarly achievement. Members of the Teaching Academy are expected to lead other teachers as examplars and mentors. Richard Reznick is one of five professors at the University of Toronto to receive the award in its inaugural year.

Richard was honoured for leading the team responsible for creating the Surgical Skills Centre at Mount Sinai Hospital, a world standard for surgical education. Students learn and practice new skills without putting patients at risk, in a more relaxed environment than the operating room. Students work on realistic models and simulators. There is a video link to a Mount Sinai operating room for them to observe real operations. Surgical residents use the centre to learn basic skills and faculty use it to learn new procedures. As reported in an earlier issue of the Spotlight, the Skills Centre has recently been expanded and renovated. Teaching sessions for undergraduate year III surgical rotations are now taking place in the new space. A link to the Skills Centre is available at: http://www.utoronto.ca/ssc/.

Richard was also cited for his work developing an objective, structured exam that requires candidates to assess actors from Standardized Patient Programs who are trained to affect symptoms. This innovation has changed the way doctors are licensed in Canada.

M.M.

CORRECTION

In the last issue of the Spotlight Gilbert Tang's name was not included in the editor's column about surgical residents studying health policy. Gilbert is pursuing his MBA at the Harvard Business School. His studies are sponsored by the Scholarship in Surgery Program. We apologize for the oversight.

Nancy Condo Wins Merit Award

Nancy Condo

Congratulations to Nancy Condo who won a Stepping Up Merit Award from the university for her outstanding contributions to improving the quality of the work atmosphere for our faculty and staff. The Stepping Up Awards are intended to help the University of Toronto be among the world's best public teaching and research universities while providing a unique and positive experience for all members of our community. Dean Cathy Whiteside commended in particular her excellent work on faculty recruitment which she manages administratively for the Surgery Department. She also praised another accomplishment, the organization and administration of the Child Care Program recently introduced as a benefit of membership in our department. Richard Reznick describes Nancy as "vitally interested in, and dedicated to the well-being of the department. No problem is too big or too small for her to tackle, and she does so with knowledge and skill. We thank her for her hard work and congratulate her on this much-deserved award."

M.M.

ANNOUNCEMENT

The Centre for Faculty Development (CFD)

Please visit online at: http://www.cfd.med.utoronto.ca for up-to-date information. You may also contact Jackie McCaffrey by email: mccaffreyj@smh.toronto.on.ca or by telephone: 416-864-6060 Ext. 6546 for any questions/comments related to Workshops, BPER Rounds, the Stepping Stones Certificate Program, the Education Scholars Program, Molecular Medicine and other "Special Projects". Workshops are open to all members of the Faculty of Medicine at UofT free of charge.

HONOURS/AWARDS/ ACCOMPLISHMENTS

Nancy Baxter (GenSurg) has been awarded a Government of Ontario Early Research Award given by the province to researchers who are within the first five years of an independent academic career. The award is part of the province's wider research and innovation strategy, which aims to attract and develop the best and most promising researchers.

Michael Cusimano (NeurSurg) was quoted various times by Bill Casey, Member of Parliament, in his speech regarding Brain Tumour Surveillance. December 12, 2006.

Karen Davis (Research) was appointed as Head of the new research division of Brain, Imaging and Behaviour - Systems Neuroscience, Toronto Western Research Institute.

Peter Dirks (NeurSurg) and his research program on Brain Tumour Stem Cells were featured in the *Globe and Mail*, Saturday, November 25, 2006 with regard to stem-cell science.

Peter Ferguson (OrthSurg), voted best teacher by residents, was presented with the Salter Award for Teaching Excellence at Kennedy Day 2006.

Fred Gentili (NeurSurg) has been made an honorary member of the Italian Neurosurgical Society.

Ab Guha (NeurSurg) received a US Army DOD/ NCI Concept Award for his project on: "Protein Expression Profile of NF1 Deficient Schwann Cells". April 2007 - March 2009.

Ab is also the recipient of the Desi News – Grants Community Achievers Award.

David Houlden (Research) has been appointed to the Editorial Board of the *Journal of Clinical Monitoring and Computing.*

Tony Khoury (UrolSurg) is one of the Associate Editors of the Fifth Edition of *Clinical Pediatric Urology*. This is the first time in the history of this publication that a non American has been selected as an Editor. The book is considered the standard textbook for Pediatric Urology and has international contributors from around the globe.

Abhaya Kulkarni (NeurSurg) was awarded the Roscoe Reid Graham Scholarship from the Department of Surgery. This is a 3 year award offering research support for the recipient's research program.

Andres Lozano (NeurSurg) was been honoured as Inventor of the Year by the UHN Office of Technology Development and Commercialization for his ingenuity in using neurostimulation in treating depression, anxiety, cognitive disorders and Parkinson's disease. The award recognizes a UHN inventor or team that has made the greatest contribution to the advancement of human health by means of a patented invention.

Andres has also been appointed Chair, Archives Committee, Movement Disorder Society, 2007 – 2008; and has been appointed as the Fellowship Director for the Division of Neurosurgery in the Department of Surgery.

Avery Nathens (GenSurg) has been awarded a Tier II Canada Research Chair. This coveted designation is reserved for our best scientists and recognizes past achievements and future potential. Avery was recently recruited to St. Michael's Hospital as the Division Head in General Surgery.

Joao Pippi Salle (UrolSurg) (Course Chairman) and **Tony Khoury** (UrolSurg) (Course Faculty) led an international initiative through the Societe Internationale Urologie meeting in Cape Town, South Africa in November 2006. They ran a successful Hypospadias Course with emphasis on reconstruction of the complex cases before the annual meeting. The two day course consisted of one day of live surgery with 2 simultaneous operating rooms and a second day of lectures and case discussions. Most of the course attendees were from Africa and under developed countries enhancing the value of this international outreach effort to under ser-

viced children. During the main conference Drs. Pippi Salle and Khoury also taught an instructional course on Pediatric Urology.

Ori Rotstein (GenSurg) was re-elected during the College's Annual Business Meeting of Members on Thursday, October 12, 2006 as the American College of Surgeons Governor for Ontario, to represent the Fellows in Ontario.

Mike Schwartz (NeurSurg) was Course Director for the Canadian Radiosurgery Society (CaRS) Meeting, Niagara-on-the-Lake, November 17-18, 2006.

Michael Taylor (NeurSurg) was appointed to the Awards Committee of the Society for Neuro-Oncology.

William Tucker (NeurSurg) has been affirmed as the next President of the Canadian Medical Protective Association (CMPA). Bill will assume the role of President in August 2007.

Ronald Zuker (PlasSurg) has been elected as an Honorary Fellow of the Royal College of Surgeons of Edinburgh, Scotland. Dr. Zuker's election to the College recognizes his accomplishments in the field of pediatric plastic and reconstructive surgery at the Hospital for Sick Children. Founded in 1505 as the Barber-Surgeons of Edinburgh, the College is the oldest surgical college in the world and since its founding has been dedicated to the maintenance and promotion of the highest standards of surgical practice.

Kamal Mattar (UroOncology Fellow, Supervisor: M. Jewett) has been a awarded a Canadian Urological Association / Canadian Urologic Oncology Group / Bayer Kidney Cancer Award for his project: "Analysis of VHL Gene Mutation in Sporadic Renal Cell Carcinoma".

Amro Al-Habib (NeurSurg Resident) was the Second Prize Horsey Award winner from the Botterell Lectureship.

Ahmed Al-Jahwari (OrthSurg Resident) was selected as the 2006 recipient of the Bernard Ghert Award for Resident Excellence in Patient Focused Care.

Jonathan Cardella (GenSurg Resident) has been awarded the Paddy Lewis Award for Excellence in Teaching by a Junior Resident in the Division of General Surgery.

Karen Cross (PlasSurg Resident, Supervisor: J. Fish) has be awarded a 2006 Physicians Services Incorporated Foundation (PSI) Resident Research Award for project titled: " Clinical Utilization of Near Infrared Spectroscopy Devices for Burn Depth Assessment".

Hossein Mehdian (OrthSurg Resident) was voted best graduating orthopaedic resident by faculty and presented with the R.I. Harris Postgraduate Award on Kennedy Day 2006.

Cian O'Kelly (NeurSurg Resident) received the Claire Bombardier Award in Clinical Epidemiology for the Most Promising Student.

Julian Spears (NeurSurg Resident) received a 3-year Heart and Stroke Foundation Phase I Clinician Scientist Award.

Scellig Stone (NeurSurg Resident) was the recipient of the First Prize Horsey Award from the Botterell Lectureship.

Peter Stotland (GenSurg Resident) was awarded the Paddy Lewis Award for Excellence in Teaching by a Senior Resident in the Division of General Surgery.

Robert Wang (OrthSurg Resident) won Best Graduating Presentation on Kennedy Day 2006.

Tanya Zakrison (GenSurg Resident, Supervisor: Sandro Rizoli) won Best Poster at CAGS in Calgary, 2006 for her work entitled "Perioperative Vasopressor Use is Associated with an Increased Risk of Gastrointestinal Anastomotic Leakage".

Robert Jackson (OrthSurg Alumni) was presented with the Paralympic Order – by the International

Paralympic Committee (IPC), the highest tribute for an individual connected with the Paralympic Movement – during a special ceremony held at the Terry Fox Hall of Fame Inductee Luncheon on Monday November 13, 2006. The Paralympic Order recognizes Dr. Jackson's instrumental role in the early development of the Paralympic Movement and Paralympic Sport in Canada.

GRANTS / FELLOWSHIPS

Michael Fehlings (NeurSurg) received a Canada Foundation for Innovation (CFI) Grant for his work on: "The Regenerative Medicine Project" and was awarded a 2-year Physicians' Services Incorporated Foundation Grant for his project titled: "Neuroprotection of the Injured Spinal Cord Through Inhibition of FAS-mediated Apoptosis".

Michael has also been awarded Fellowship status in the American College of Surgeons (FACS) and appointed a Scientist in the McEwen Center for Regenerative Medicine.

Ab Guha (NeurSurg) received a 2-year Cancer Research Society Grant for his work on "GATA6 Conditional Knockout in Giliomagenesis".

Ab has also received a 1-year Childhood Tumour Foundation Grant for his work on: "Validation of Rapamycin as an Effective Therapy for Human NF1-associated MPNST".

Patricia Stewart (Anatomy), **Michael Tymianski** (NeurSurg), Jodie Jenkinson (Division of Biomedical Communications), Teddy Cameron (Division of Academic Computing), **Barbara Ballyk** (Anatomy) received a McLaughlin Centre for Molecular Medicine Grant for project titled: "Toward Defining A Pedagogical Framework For The Development Of Interactive Learning Tools".

Michael Taylor (NeurSurg) has received a 4-year CIHR Grant for his work titled: "Characterization of Amplified Oncogenes from Pediatric Ependymoma".

Vasundara Venkateswaran (Research) PI, co-applicants, Laurence Klotz, Neil Fleshner, Linda Sugar & Seamus Teahan received a CIHR-Operating Grant ($247,413) for project titled: "Micronutrients and Prostate Cancer: Prevention to Treatment".

Vasundara has also received as PI, co-applicants, Michael Pollak, Laurence Klotz, Neil Fleshner, Linda Sugar a grant from the Prostate Cancer Research Foundation of Canada ($110,138) for project titled: "Effect of a Low-carbohydrate Diet on Prostate Cancer In Vivo: Alterations in Biochemical Mechanisms Involving the Insulin and IGF Axis".

Nicole Woods (Educator/Scientist) has been awarded the Dean's Fund New Staff Grant from Faculty of Medicine for project titled: "The Role of Causal Knowledge in Clinical Diagnosis: Moving Beyond the "Textbook" Case".

Nikki with collaborators **Eric Massicotte** (NeurSurg), **David Backstein** (OrthSurg) and Rita Kandel (Dept. of Laboratory Medicine & Pathobiology) have received a McLaughlin Centre for Molecular Medicine Grant for project topic: "Molecular Medicine and Surgery Phase II Central Seminars".

Gregory Hawryluk (NeurSurg Resident) and **Michael Fehlings** (NeurSurg) were awarded a Craig H. Neilsen Foundation Grant to support their research involving: "Stem Cell-based Approaches to Repair Spinal Cord Injury".

Gregory has also received an AO North America Resident Trauma Research Grant and received a 2-year Medical Scientist Training Fellowship from the McLaughlin Centre for Molecular Medicine.

Scellig Stone (NeurSurg Resident) is the recipient of a Michael J. Fox Foundation Research Fellowship.

Subodh Verma (CardSurg Resident) has received ($200,000) from Pfizer Canada via their cardiovascular grants competition for project titled: "South Asians and Adipokines-Links to Cardiovascular Disease".

The deadline for the Spring 2007 Surgery Newsletter is February 28, 2007. All members of the Department are invited to submit news items, articles, pictures, ideas or announcements. You may reach us by:

voice mail: **416-978-8177, fax: 416-978-3928 or**
e-mail: **jean.defazio@utoronto.ca**.

Please provide your name and telephone number so that we may contact you if we have any questions.

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This is a deliberate diversion from heparin, but so far I have not mentioned mind-body concepts, which I believe are an extremely important adjuvant measure to the use of heparin or any other therapeutic modality. Medical scientists are just beginning to understand the neurochemical, immunological, and hormonal mechanisms of the body that are affected by the patient's state of mind. Distress can affect one's health adversely. Most of the medical research until the present has been concerned with the dire effects upon the bodily processes of the negative emotions such as fear and anxiety.

But what is the effect upon the psycho-neuro-immunological processes of the body when it is exposed to the positive emotions of compassion, understanding, trust, and laughter? I believe that these emotions must effect changes in the blood that can improve the quality of life, prevent disease, and reduce morbidity and surgical mortality.

W.G. Bigelow *Mysterious Heparin: the Key to Open Heart Surgery.* Toronto: McGraw-Hill Ryerson, 1990.