



In this issue: Teaming Up for Asthma **1** Inflammation: A New Focus for Research **3** Grooving for Pediatric Oncology **3** Living with COPD **3** Looking into Lupus **4** Vital Signs: Digital Patient Monitors **5** Swinging for Cancer **6** Pioneering Excellence **6**

PUBLISHED BY THE MCGILL UNIVERSITY HEALTH CENTRE FOUNDATION

APRIL/MAY 2003

A Breath of Fresh Air

F

or most people, breathing comes as naturally as, well, breathing. This isn't the case for the nearly three million Canadians who suffer from asthma and rely on inhalers, ventilators, bronchodilators and any number of other treatments to reduce the inflammation and airway constrictions brought on by the disease.

"Most asthmatics develop their first symptoms in childhood, and while some outgrow the disease, the majority are asthmatic for life," says Dr. Qutayba Hamid. Hamid is in charge of respiratory research at the Research Institute of the McGill University Health Centre (MUHC) and is also the director of the Institute's Meakins-Christie Laboratory. Like other experts in his field, he recognizes that asthma, which can be triggered by a large variety of factors and manifests itself in varying degrees of severity and duration, is an extremely complex disease. It costs more than a billion dollars every year to treat Canadians with asthma, but because so much about the disease is still unknown, treatments aren't always effective. This leaves Hamid, working side by side with other scientists, with the task of finding new answers that will lead to improved medications and therapies.



Fortunately, the UK-trained Hamid, who took up his position at McGill in 1993 after working for 12 years at England's National Heart and Lung Institute and its Hammersmith and Brompton hospitals, is passionate about collaborating to find answers. His 20-year career in asthma research is studded with shared

(continued on page 2)



(Fresh Air continued from page 1)

publications and research initiatives, undoubtedly a result of his unique ability to draw other investigators into a relationship based on partnership. This has been one of the keys to his success at the Meakins-Christie Laboratory, which accommodates a team of 40 researchers, students, post-doctoral fellows and members of related industries. They study several respiratory ailments, including asthma, tuberculosis, sleep apnea and a looming epidemic called chronic obstructive pulmonary disease (COPD, see sidebar "Breathing Easier," page 3).

The lab attracts approximately \$4 million in research grants every year and is a training centre for respiratory professionals in Montreal. "Many of the scientists who trained at our lab continue to team with us on projects, even though they work in other areas within our Institute," he says. "We're known across Canada and internationally for the quality of our investigations in the areas of physiology and immunology of respiratory disease." For example, Hamid's team has made important discoveries about the role that certain proteins, called cytokines, play in asthma and immune-related diseases affecting lung tissue.

Hamid, named a James McGill Professor in 2000, is part of a larger group of researchers at the Research Institute of the MUHC who are looking at immune-related inflammation and who have prepared a proposal for funding from the CFI (Canada Foundation for Innovation). (See "Inflammation," page 3.) He is currently also heading up an initiative to develop the McGill Asthma Research Centre, a new project that was established earlier this year. "We've been working towards formalizing a collaborative research environment for a long time and it's finally becoming a reality," he says.

The Centre will build on the core research strengths of the Meakins-Christie Laboratory and on informal connections Hamid has been fostering for several years with specialists across Quebec. Most notably these include researchers at Université Laval in Quebec City and researchers



"There are two types of collaboration," says proven team-builder Dr. Outayba Hamid. "One is on paper only, for the purposes of securing a grant, and that type I don't support. The other is actual collaboration where people meet each other and work and think together to find answers. This type can be a real challenge because you have to get top people to set aside their egos."

at Sacré Coeur Hospital who are affiliated with the Université de Montréal. "By teaming up, we'll avoid duplication and instead put our collective energies into getting a full handle on the disease. We'll also attract more funding from industry and government agencies, which can only benefit the research."

This kind of team approach will result in some of the most comprehensive asthma research in the country. As Hamid puts it, "We'll be able to look at the disease from cell to patient, from benchtop to bedside. As we learn more about how asthma affects cell biology, we'll be able to develop more effective medications and treatments." This is known as translational research, where discoveries made in basic science laboratories are applied in clinical settings, which in turn leads to new questions that can hopefully be answered back at the lab.

Translational research requires an enormous co-operative effort from many specialists, including basic scientists, clinicians, epidemiologists, geneticists and others. What will make this co-operation easier at the MUHC is that the main

laboratory of the McGill Asthma Research Centre will be housed at the Glen facility, putting all these researchers in close proximity to each other and to patients of all ages.

The close proximity will also facilitate research into the genetic and environmental causes of asthma and its manifestation in children and adults. Naturally, Hamid is excited by the opportunity of working more intimately with pediatric asthma specialists. "We'll be able to look at the disease from infant to adult. We'll learn more about its natural history and we'll be able to design new therapies to prevent the deterioration of patients' pulmonary function over time, thereby decreasing the incidence of the disease in the adult population," he explains.

For Hamid, this opportunity to broaden the overall scope of his collaborative efforts is a very exciting step forward in the search for asthma treatments. And that can only prove beneficial to the hundreds of patients who rely on a daily basis on the McGill University Health Centre and its researchers for hope that soon they will be able to breathe just a little bit easier. ❄

M U H C HEALTH PERSPECTIVES

MUHC Health Perspectives is published by the McGill University Health Centre Foundation, 2155 Guy St., Suite 900, Montreal, Quebec H3H 2R9

Editor: Sami Antaki
Assistant Editor: Stephanie Fox
Copy Editor: Jane Pavanel
Designer: Shari Blaukopf
Photographer: Christian Fleury
Translator: Marie Guoin

For information, comments or to make a donation, please call (514) 931-5656
www.muhcfoundation.com



Breathing Easier

The rattles and wheezes that reverberate through the outpatient clinics at the Montreal Chest Institute of the McGill University Health Centre (MUHC) are a small indication of a growing national health problem: chronic obstructive pulmonary disease (COPD). The COPD patients at the Chest are among the half million Canadians who suffer from the disease, which includes a range of ailments resulting from lung damage caused by smoking, in particular emphysema and chronic bronchitis.

All in all, COPD costs Canadians an estimated \$3.225 billion a year, according to a Health Canada study done a few years ago. Quebec's portion of that burden is \$500 million.

Luckily, a multidisciplinary respiratory team at the Chest has developed a unique approach to treating the disease, a program called "Living well with COPD" that is expected to take a huge bite out of these numbers. The program focuses on teaching patients and their families how to cope with the disease so that patients can stay as healthy and active as possible.

Diane Nault, head nurse of respiratory outpatient clinics at the Chest, was instrumental in creating "Living well with COPD." She says, "The program instructs patients in breathing, coughing and relaxation techniques that help ease their anxiety and shortness of breath." It also includes information on managing medications and reducing environmental factors that can trigger

an attack, strategies for responding to an attack, and lessons on home-care oxygen therapy.

Teaching rehabilitation exercises is another important component of the program because exercise helps build patients' strength and confidence. To this end, participating patients come to the Chest three times a week to do warm-up and aerobic exercises with physiotherapists. "Living well with COPD" also educates patients about what they can expect as the disease progresses.

When the program was tested in a clinical trial conducted by the MUHC's Dr. Jean Bourbeau between 1997 and 2000, the 210

"I couldn't believe that COPD patients were spending the last years of their lives in hospital beds, hooked up to oxygen 24 hours a day. They weren't even able to lift their little fingers without gasping for breath, all because of cigarettes."

Diane Nault on her experience in the mid-1990s as head nurse of respiratory long-term care units at the Chest.

patients who participated demonstrated a 40 percent reduction in emergency room visits and hospitalizations. "So far in Canada, ours is the only
(continued on page 6)

Strike a Pose

On Friday, April 11, students from Lower Canada College (LCC) will strut their stuff to raise money for oncology at the McGill University Health Centre

(MUHC). The event, a fashion show-cabaret with a "Friday Night Fever" theme, was inspired by a unique program at the MUHC that cares for 16- to 29-year-olds with cancer.

Most cancer patients in this age group suffer from a pediatric form of the disease and respond best to treatments that follow pediatric protocols. However, given their age, more often than not they are treated at adult hospitals according to adult protocols. Thanks to Dr. Petr Kavan, this is no longer the case at the MUHC.

Early this year Kavan launched a program to provide pediatric oncology care for these patients that also meets their special needs as young adults. Called the Adolescent and Young Adult Oncology Program, it unites oncology specialists at the MUHC's Montreal Children's Hospital and the Royal Victoria Hospital sites. Now, young adults with cancer are treated with other patients in their peer group. This helps reduce feelings of alienation they may have while learning to cope with their disease.

"Cancer could strike any of us," says Sara Schlemm, an LCC student helping to organize the event. "When we heard about the program, we just knew that the proceeds from this year's fashion show should go towards it." Money will be raised through donations, ticket sales and advertising in the event program. "Our goal is to present Dr. Kavan with a check for \$15,000," says Schlemm.

The evening will kick off at 6:15 with a wine and cheese for sponsors and donors. This will be followed by a presentation from Kavan and one of his patients, who will share their experiences with adolescent cancer. Beginning at 7:00 and again at 9:15, over 40 students will model a variety of fashions while performing dance routines choreographed by professionals. The clothing is being provided by the designers sponsoring the event. Tickets are \$12 each. For more information or to make a ticket purchase, please contact LCC Dean of Students Anne-Marie Kee at (514) 482-9797, ext. 302, or call the MUHC Foundation at (514) 931-5656. ❄



Fashion show student producers ham it up (from right to left): Mark Shefner, Tammy Kovac, Julie Marcus, Erica Sand, Kristina Velan and Lauren Guay.

Inflammation: A New Focus for the Research Institute of the MUHC

Discoveries about triggers in the immune system that lead to inflammation will inform the Research Institute's new and broad focus on inflammation, a serious symptom of several diseases, including asthma (see "Breath of Fresh Air," page 1), lupus (see "Getting a Lock on Lupus," page 4) and inflammatory bowel disease. Inflammation can also be a response to transplantation and certain allergies. The Research Institute's specialists in these areas will work closely together to examine the common ground shared by each area and to discover what the mechanisms are in the immune system that lead to inflammation. They will also study what drugs can be used to treat it.

A proposal for funding this new research focus will be submitted by the Research Institute of the MUHC this spring to the Canada Foundation for Innovation (CFI). The proposal, for \$80 million, also includes funding for research in cancer, in the area of brain and behaviour, as well as in disability, pain and rehabilitation. The federal funds available through CFI grants are matched by the provincial government and require a portion of private support. In this instance, the portion is \$16 million: \$10 million in donations will be raised by the MUHC Foundation; \$6 million in equipment and discounts will be realized by the Research Institute.

The CFI funds will be used to construct and equip new laboratories for these areas of research at the MUHC's new facility. ❄



Getting a Lock on Lupus

Ann Clarke's diminutive size belies a personality big enough to be the driving force behind the Lupus Clinic at the Montreal General Hospital site of the McGill University Health Centre (MUHC). The immunologist-epidemiologist from Newfoundland runs the clinic along with Montrealer Dr. Christian Pineau, who joined as co-director in the fall of 2001. With close to 500 patients, the MUHC's Lupus Clinic is the largest in Quebec, the second largest in Canada, and a powerhouse in lupus research worldwide. (For details on a new research initiative, see sidebar on page 3.)

Clarke says it was the complexity of the disease that attracted her interest in the late 1980s when she was a resident in internal medicine and later a fellow in allergy-immunology at McGill University and the Montreal General Hospital. A chronic autoimmune disorder that affects between 15,000 and 50,000 Canadians, lupus is often called the disease with a thousand faces because its symptoms vary greatly from one patient to the next and over the course of the illness.

"From a clinician's standpoint, lupus is challenging because many body systems can be involved and because you can't predict what the next symptom will be," explains Clarke. "From a patient's standpoint, the disease can be incredibly stressful because you never know if and when it will get worse and how your quality of life will be affected."

After learning about the medical side of lupus while specializing in immunology at McGill, Clarke decided to attack the disease from another angle. In 1993, as a master's student at Stanford University in health policy research, she wrote a thesis that looked at the social and economic costs of treatment.

Later that year Clarke returned to Montreal — a city she loves — to join the team at the Lupus Clinic at the Montreal General Hospital as assistant physician, where she devoted her energy to both the clinical and research sides of treating the disease. In the ten years since she has pushed to improve the clinic's efficiency. "Most lupus patients have a host of health problems that involve many different specialists," she says, "and at our clinic, we were seeing patients travel all over the hospital to visit them. Sometimes we weren't aware of treatments that were being administered elsewhere, even within the five MUHC sites."

When she was appointed co-director in 1997, Clarke quickly applied herself to the task of restructuring the clinic to improve patient care. "We decided that it made more sense for the MUHC specialists to come here," she says. Two



years later and after many consultations with the specialists, the transformed clinic was up and running smoothly. Today her patients have easy access to a multidisciplinary team that includes a nephrologist and neurologist who come in one day a month, a hematologist and dermatologist who come in one day every other month, and an osteoporosis specialist and respirologist who see patients every three to four months.

But Clarke didn't stop there. "Putting the last piece of the puzzle in place meant revamping patient records," she says. "That might not sound

important, but when you're treating someone whose lupus is particularly complicated, you have to wade through an enormous amount of information. Chasing down records is not something you want to do."

With her usual zeal, Clarke rolled up her sleeves and scoured the MUHC for every last piece of information that pertained to her patients. Today she requires that records of current consultations and prescribed medications, as well as notes by all attending physicians, be kept at the clinic. The result is a three-inch binder for each patient that puts comprehensive treatment information at everyone's fingertips.

Having the information at hand is crucial. "Lupus is a very tricky disease both in terms of diagnosis and treatment," says Clarke. "Some patients

have the classic symptom of a red rash across the face, what we call a butterfly rash because of its shape, and in these cases diagnosis is easier. Others may have more nebulous symptoms like chronic fatigue, joint pain, a bit of hair loss or even kidney problems, blood clots or seizures. In most cases, definitive diagnosis is usually done with blood tests."

The most common form is systemic lupus erythematosus (SLE), in which a person's immune system attacks healthy tissue around the body, especially organs, skin and connective tissue in the joints. This causes inflammation that can lead to fatal organ damage if left untreated. The majority of the patients at the Lupus Clinic suffer from SLE. "They are usually referred to us by general practitioners and other specialists at the MUHC and in the community because of the specialized care we offer," says Clarke.

"Now that treatment is centralized and we have a team approach to care, communication between all the health care providers involved is much better," Clarke says proudly. "Everyone finds it easier to discuss problems that crop up or collaborate to find answers to patients' questions, and we're able to react more quickly and appropriately when there's an emergency." It will be easier still when all of the MUHC's resources are on one site, including the diagnostic equipment that isn't currently in proximity to the Lupus Clinic.

Speedy reaction time is critical when it appears a



patient is going to have a flare-up that could cause irreversible organ damage. "Fifty years ago, patients diagnosed with lupus weren't expected to live more than four years after diagnosis because flare-ups left them progressively worse off," Clarke explains. Today, most patients' lupus symptoms can be controlled with medication, giving many patients normal life expectancies. However, the medication often comes with unwanted and sometimes serious side effects, something Clarke is currently looking into.

She is leading a worldwide lupus research team that is examining the safety of alternative medications to Prednisone, the drug most commonly used in treating the disease. Developed in 1955, Prednisone was the first drug that effectively controlled lupus-related inflammation. Its short-term side effects included weight gain, acne and facial puffiness, which most patients and practitioners considered unpleasant but acceptable. Long-term use of the drug revealed a more serious concern, namely increased risk of cardiovascular problems, osteoporosis and cataracts. "What we try to do is get patients' symptoms under control with Prednisone, then switch over to immunosuppressive medications such as Cyclophosphamide, Imuran, Cellcept and Methotrexate," Clarke says.

However, a red flag was raised when studies revealed increased rates of cancers of the blood system among transplant patients who take some of these drugs but at higher dosages. "I wanted to know if the same thing was happening with lupus patients," Clarke says. "But to get decisive findings on a possible link between lupus and cancer, you need a lot of patients, far more than any one clinic has. Previous studies didn't involve enough patients."

In 2000, after getting seed money through a generous contribution from the Singer family in Montreal, Clarke began gathering resources for the larger study she now oversees. Over the next three years she received additional funding from the Arthritis Society in Canada, the Canadian Institutes for Health Research (CIHR) and the National Cancer Institutes of Canada (NCIC). The Arthritis Foundation in the United States also provided funding. In all, she received more than \$1.2 million for the study.

At the same time Clarke used her strong ties with the Systemic Lupus International Collaborating Clinics (SLICC) to solicit the support of over 25 lupus researchers from 22 hospital centres around the globe, including nine in Canada, seven in the United States, two in England and one each in Iceland, Scotland, Sweden and Korea. MUHC and McGill team members include McGill rheumatology doctoral candidate Dr. Sasha Bernatski, MUHC oncologist Dr. Raghu Rajan, and McGill researchers Dr. Lawrence Joseph and Dr. Jean-François Boivin.

Altogether, they now have at their disposal the records of 10,000 lupus patients. Researchers at each centre are going through their records with the goal of quantifying and comparing the cancer rates of lupus patients with those of the general population in their area. Although the study is funded through

"Lupus is eight times more common among women of childbearing age. Because the disease is treated with powerful drugs, when one of my patients tells me she wants to have a baby, we look at the risks very, very carefully," says Ann Clarke, lupus immunologist, researcher and mother of three.

2006, preliminary results will be submitted for publication before the end of this year.

A second study is already underway to see if a correlation exists between lupus patients' immunosuppressive therapy and their rates of cancer. "If we find that lupus patients aren't at higher risk for cancer, then I can reassure my patients that they can feel safe when taking immunosuppressive drugs," Clarke says. "On the other hand, if we find there's reason for concern, we'll start looking for alternative treatment approaches right away."

Clarke is also interested in finding out what environmental and genetic factors may predispose people to developing lupus. Studies to determine these factors could include other specialists at the MUHC and would be greatly facilitated once all of the MUHC's resources are located on one site. "We're proud of our multidisciplinary approach and the expertise we've accumulated in treating lupus," says Clarke. "Essentially, every solid answer we can give our patients offers them a measure of relief from the constant anxiety that's part and parcel of living with this disease." ❄

Equipping Excellence

In emergency rooms and birthing suites, in operating rooms, patient wards and ambulatory clinics, caregivers throughout the McGill University Health Centre (MUHC) rely on accurate measurements of patients' vital signs to make quick and appropriate decisions about treatment. **Digital patient monitors** such as the one shown here give precise readings of patients' blood pressure, pulse, temperature and blood oxygen levels, all in 30 seconds or less.

These efficient and handy monitors work their magic non-invasively. The blood pressure cuff is placed around the patient's upper arm, where it gently squeezes to monitor arterial pressure and pulse rate. Meanwhile, the thermometer takes the patient's temperature orally, and the oxymeter, which is placed on the patient's finger, measures the amount of oxygen in the blood. Many models of digital patient monitors exist, some of which are handheld, allowing nurses and other caregivers to take the vital signs of each and every patient during their bedside rounds.

A representative list price for a single unit is approximately \$2,500. Part of the proceeds from the McGill University Health Centre's Healing Gardens Auction on September 19, 2002 was used to purchase 32 digital patient monitors that will be distributed across the MUHC's sites. Our heartfelt thanks go to the generous donors and sponsors who made this possible.

If you want to learn about the equipment used by MUHC professionals, or if you want to test your knowledge in this area, visit the MUHC Foundation's web site at www.muhcfoundation.com and take the "How Much Does It Cost?" challenge in the News and Publications section. ❄

This series is intended to be informative; the McGill University Health Centre Foundation does not endorse any particular manufacturer or model of the equipment shown and described here.



Image courtesy of Welch Allyn



“Now We’re Really Swinging!”

Cedars 25th Annual Golf Tournament set to raise over \$1 million

This summer one of the most prestigious and successful charity golf tournaments in Canada will mark a quarter century of philanthropic support with style and a lot of pizzazz. Under the guidance of honorary chairs Allan Chamandy and John Rae, the Cedars Golf Tournament is expected to bring in \$1 million, doubling the amount that was raised last year for the Cedars Edward J. Tabah Oncology Fund for the McGill University Health Centre (MUHC). Over the course of its history the tournament has generated more than \$5 million and has been recognized as a key event in expanding the number of supporters of the Cedars Cancer Institute, including volunteers. The MUHC Foundation is pleased to actively support the Cedars tournament by recruiting foursomes and event sponsors.

The tournament will be held at the Elm Ridge Country Club in Ile Bizard on July 7 and will feature two shotgun starts:



7:30 AM and 1:00 PM. A gala around the pool is planned for the evening, with catering by four of Montreal’s finest restaurants. Also in the works is a performance by the Montreal Jubilation Gospel Choir.

To register your foursome, please contact Marc Weinstein, MUHC Foundation Director of Development and General Counsel, at (514) 931-5656, or email him at: marc.weinstein@muhc.mcgill.ca, or contact Silvana Orrino, Executive Coordinator, at the Cedars Office at (514) 843-1606 or by email at: silvana.orrino@cedars.ca. Tickets for foursomes are \$3,000 each and \$750 for single players. Dinner tickets are \$100 each for guests of golfers and \$250 for all other dinner guests. Please reserve early as only 128 foursomes will be accepted this year. The deadline for registering or for sponsoring the event through advertising is June 1, 2003. ❄

Portraits in Time

Thousands of individuals have helped advance the development of the McGill University Health Centre, and in every issue of *MUHC Health Perspectives*, we feature one or more of these significant contributors.

EILEEN FLANAGAN (1896 — 1988)



Eileen Constance Flanagan was a champion of formal education and legal rights for nurses and was an ardent advocate of women’s participation in public life. Known for her strength of character and conviction, she successfully lobbied for the passing of the Quebec Nurses Act in 1946, Canada’s first legislation to require a license for the practice of nursing. Flanagan was a member of several nursing associations and chaired the Legislation and Labour Relations Committee of the Association of Nurses for the Province of Quebec for 28 years.

A Quebec native, Flanagan began her 41-year career in nursing in 1920 when she entered the Royal Victoria School of Nursing. Upon graduation, she served as head nurse at the Royal Vic for three years and then as a nursing instructor at McGill University for several years after that.

Flanagan’s greatest career challenge came in 1934, when she was recruited to the position of Director of Nursing of Dr. Wilder Penfield’s inaugural team of ten nurses at the Montreal Neurological Institute. She held this title until she retired in 1961. Her experiences convinced her that special skills were required in neuroscience nursing, leading her to establish a 22-week Neuroscience Nursing Program. Still offered today, the program has attracted close to 1,300 nursing students from around the world since its inception.

Retirement from nursing didn’t mark the end of Flanagan’s contribution to society. In 1961, she enrolled in McGill’s Faculty of Law, launching a second career in her other lifelong passion. Among her legal accomplishments was successfully campaigning the provincial government to allow men into the profession of nursing.

Her many honours include two Jubilee Medals, a Centennial Medal, a Distinguished Citizen Award, the Quebec Order of Nurses Medal (its highest honour), and an honorary doctorate from McGill University. Flanagan is remembered each year by the McGill Faculty of Nurses and the McGill University Health Centre nurses at the Eileen Flanagan Memorial Dinner. ❄

(Breathing Easier continued from page 3)

patient education study to get such great results on health-care services utilization,” says Nault, who coordinated the study under Bourbeau’s direction.

Not surprisingly, Quebec’s 16 regional health boards are now working to adopt “Living well with COPD,” and Nault was given the task of training the nurses who will use the program to educate their COPD patients. “It’s part of the health ministry’s focus on providing preventive treatment for chronic diseases that overload emergency rooms and eat up health-care resources,” she says.

In addition, the Quebec health ministry mandated the Montréal-Centre regional health board to develop an integrated care network for COPD patients. The network, which has been in operation since last fall, creates links between home-care respiratory services, CLSCs and hospitals, including the MUHC. Drawing heavily from “Living well with COPD,” the network is working to standardize the treatment and follow-up of COPD patients to ensure that no one falls through the cracks. To this end, patient navigators, typically nurses with a bachelor’s degree, were given responsibility for monitoring their patient’s treatment and use of health-care resources throughout the network. Nault was given the task of creating training sessions for teaching them “Living well with COPD.”

The network will be evaluated on an ongoing basis until a final report is delivered to the health ministry in the fall of 2004. If it achieves the same kind of success as “Living well with COPD” did, it could become a model for networked care and patient education across the country, helping more patients live happier lives while making more efficient use of health-care resources. That kind of success could turn rattles and wheezes into sighs of relief. ❄