members. "He's dreaming," scoffed Bonavista, Nfld., family physician Chris Randell following comments by John Peddle, executive director of the Newfoundland and Labrador Health Care Association. "Here in Bonavista we've been living on locums for a year and without them there is no way we would be able to survive."

Randell says that of the 10 full-time family physicians who used to serve the approximately 12 000 people in Bonavista and surrounding area last year, only 3 remain. He adds that the situation is putting severe strains on both physician and patient. "It's a very difficult situation for me because I grew up in this community and I have to turn people away because I just can't handle any more patients."

Dr. Karl Misik, president of the Newfoundland and Labrador Medical Association, also spoke out. He said Peddle's comments don't acknowledge that doctors and other health care professionals have been working extremely hard to make up for the system's shortcomings. "If we pretend this problem does not exist, we will only face a larger and more severe crisis in the near future. Those working in the system cannot fill these gaps indefinitely; and concerted, system-wide action is required immediately."

Back in Bonavista, Randell is more blunt. "We need more doctors. Right now we're just not competitive [in remunerating physicians], but new funds will have to be found for health if people are going to be able to get the level of care they expect."

Cost of workplace injuries soars

A new American study has found that occupational injuries and illnesses exact a heavy toll in terms of health care spending, costing more than AIDS or Alzheimer disease. The study, conducted by researchers in the Department of Economics at California's

Search-and-rescue team attracts BC physician

"The best thing I've done in years," said Dr. Mike Flesher after completing a 1-week training session with Canada's first Heavy Urban Search and Rescue Team (HUSAR) in Vancouver this summer. Flesher, a 35-year-old emergency physician, is the only doctor on the 62-member team, which includes fire and police personnel, paramedics and engineers.

Funded by the City of Vancouver and the federal government, HUSAR, which is modelled on similar units in the US, is designed to deal with earthquakes, terrorist activity and other disasters. The recent training exercise took place in a simulated earthquake zone. The team learned to lift heavy objects, design ladder and rope systems, identify structural instability and handle hazardous materials.

Flesher, who has a background in construction and climbing, decided to join the team because he is interested in "so many other things outside the medical aspect" of rescue work, and enjoys teamwork. "Everyone brings some knowledge that is useful," he says.

Dr. Mike Flesher: much to learn

Flesher brings to HUSAR the expertise he gained in 1996 during a "confined-space" medical course. A doctor may only have access to a trapped person's elbow, he explained, and crush injuries may be complicated by hazardous materials, choking caused by dust, starvation, dehydration and the amount of time lapsed since the injury. Anticipating the health problems of someone who is still trapped and reassessing the situation as rubble is removed are key parts of Flesher's role. To round out his skills, he plans to spend time in operating rooms learning more about amputation and airway management. His responsibilities also include caring for the HUSAR team and its police dogs; the latter task means he has to spend time with the police dog squad and its veterinarian.

Two other emergency physicians have expressed interest in joining the team, and Flesher would welcome them. The team is designed to function in 2 groups of 31 members for 12-hour shifts, with 2 physicians available per shift. The group will continue to practise monthly and hopes to be operational by next January. This month HUSAR will be meeting with federal officials to discuss the possibility of creating units in other provinces. — © *Heather Kent*

San Jose State University, combined government and other data and found that about 6500 Americans died and 13.2 million were hurt in work-related incidents in 1992. Those data translate into US$65 billion in direct costs and another US$106 billion in indirect costs.

In comparison, the direct and indirect costs of heart and blood-vessel diseases totalled US$164.3 billion, and cancer carried a price tag of US$170.7 billion. In 1992 AIDS costs totalled US$30 billion and Alzheimer disease US$67.3 billion. The study appeared in the *Archives of Internal Medicine* in July.

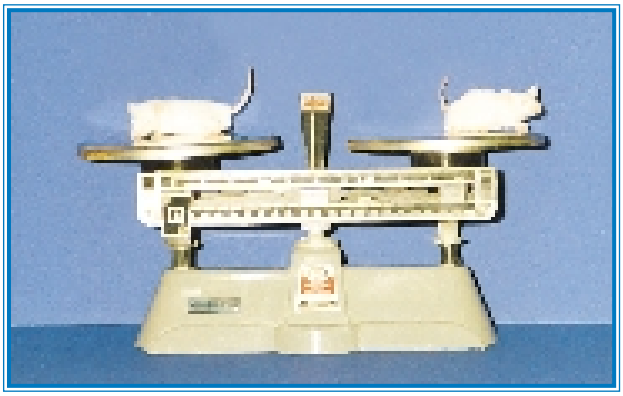
Shortage of pediatric ophthalmologists

The Canadian Ophthalmological Society (COS) has warned of a pending shortage of pediatric ophthalmologists. In a letter to members in the COS newsletter, *Perspectives*, Dr. Ian MacDonald, chair of the COS Council on Eye Care, says not only are there not enough pediatric ophthalmologists but also the shortage extends to those in training as well. MacDonald, chair of the University of Alberta's Department of Ophthalmology, recently collated and reviewed a physician resource survey for the COS. The results are expected to be released at the COS Board of Directors meeting next month.

Research Update • Le point sur la recherche

Lean, mean metabolic machine

Mice genetically engineered to lack a protein that "turns up" the metabolic rate were expected to be obese but they surprised researchers by staying lean, even when fed a high-fat diet (*Nature* 1997;387:90-4). The reason probably lies in newly discovered proteins that compensate for the deficiency of the other protein.



Mouse deficient in uncoupling protein 1 (left) was expected to be obese, but remained as lean as control mouse (right), probably because of other newly discovered uncoupling proteins that compensated for the lack of UCP1.

The discovery of the new proteins, dubbed "uncoupling" proteins, is revolutionizing researchers' view of basal metabolic rate, obesity and non-insulin-dependent diabetes mellitus (NIDDM). Dr. Mary-Ellen Harper, a coauthor of the *Nature* article and an assistant professor of biochemistry at the University of Ottawa, explains that "this is a major advance in our understanding of cellular energy metabolism and the ability of tissues to respond rapidly to the need for ATP [adenosine triphosphate]." She believes the discoveries will improve understanding of people's susceptibility to obesity and NIDDM, which develops in some, but not all, obese people.

Researchers first discovered uncoupling protein 1 (UCP1), which is found in brown adipose tissue and produces heat for the body. A second protein (UCP2) is found in various tissues and is thought to maintain an "idling rate" of tissue oxygen consumption. Messenger RNA for this protein was up-regulated in the mice deficient in UCP1, which may have enabled them to remain lean. Very recent findings suggest there is a family of uncoupling proteins. A new member, UCP3, is found in skeletal muscle in humans. At least 2 other forms are thought to exist in other tissues.

"These proteins must have a fundamental physiologic purpose," Harper says. "Otherwise, why would such energy-wasting processes have stuck around throughout evolution?" Understanding the complex interactions of these proteins in maintaining metabolic rate may eventually lead to new treatments for obesity.

A review of research on obesity and uncoupling proteins by Harper was published in the August issue of *Clinical and Investigative Medicine* (1997; 20:239-44), which is published by the CMA. — *C.J. Brown*