



## Pulse

# Ontario leads way for tuition fees

Most first-year medical students in Ontario are paying substantially higher tuition fees this fall than last year. According to data from the Asso-

ciation of Canadian Medical Colleges, the University of Western Ontario was the only school in the province to maintain fees at 1998 levels. Tuition

fee increases at the other 4 Ontario medical schools ranged from 26% at McMaster University to 51% at the University of Ottawa. McMaster still has the highest tuition fees in the country, with both first- and second-year students paying \$12 600.

For many schools outside Ontario, tuition fees have increased only slightly, if at all. In 2 of the Quebec schools, fees actually dropped slightly for first-year students. The University of Manitoba, at 16%, had the largest increase outside Ontario.

Returning students at some universities also faced tuition fee increases, albeit of a lesser magnitude. Increases ranged from 5% at Dalhousie University to 29% at the University of Ottawa.

**This column was written by Lynda Buske, Chief, Physician Resources Information Planning, CMA. Readers may send potential research topics to Patrick Sullivan (sullip@cma.ca; 613 731-8610 or 800 663-7336, x2126; fax 613 565-2382).**

### Tuition fees for first-year medical students in Canada

University	1998 Tuition fees (\$)	1999 Tuition fees (\$)
Memorial	6250	6250
Dalhousie	6350 (9300 non-Maritime residents)	6670 (9760 non-Maritime residents)
Laval	2780 (4780 non-Quebec residents)	2502 (non-Quebec residents, N/A)
Sherbrooke	2780 (5280 non-Quebec residents)	2730 (5130 non-Quebec residents)
Montréal	2452 (3824 non-Quebec residents)	2452 (3824 non-Quebec residents)
McGill	2794 (5307 non-Quebec residents)	3559 (7335 non-Quebec residents)
Ottawa	5245	7941
Queen's	6159	9200
Toronto	7800	11 000
McMaster	10 500	12 600
Western Ontario	10 000	10 000
Manitoba	6780	7880
Saskatchewan	5704	5704
Alberta	4682	4995
Calgary	5836	6192
British Columbia	3937	3937

N/A = not available

Source: Association of Canadian Medical Colleges

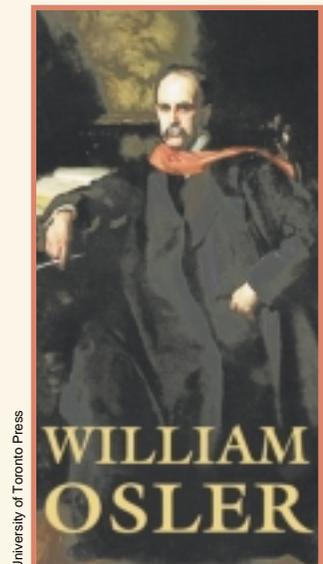
## National organ-donor plan in works

Canada should establish a national organ-donation goal, the House of Commons Standing Committee on Health says. This country, with a current donors-per-million-population (DPMP) rate of 14, lags far behind the world leader, Spain, which has a DPMP of 31. The committee also wants Canada to have a coordinated and comprehensive donation and transplantation strategy, which would be directed by a newly created council. It also agreed that it will not be easy to convince more

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## Interview with Osler biographer goes online

**CMAJ's first online audio interview features Professor Michael Bliss, author of the first full-length biography of Sir William Osler in 70 years. Bliss, who wrote *William Osler: A Life in Medicine* (University of Toronto Press), was interviewed by Dr. Ken Flegel, an associate editor at CMAJ and the editor in charge of the journal's tribute to Osler that appeared in the Oct. 5, 1999, issue. Visitors to the eCMAJ section of CMA Online ([www.cma.ca/cmaj](http://www.cma.ca/cmaj)) can either listen to the complete conversation or select specific questions and answers.**



University of Toronto Press



## Research Update

# Elderly most affected by seasonal variation in deaths due to MI, stroke

The very elderly are hit hardest by seasonal increases in deaths due to acute myocardial infarctions and stroke, new research indicates.

Besides confirming previous studies' findings that people are more likely to die of heart attack or stroke during the winter, Dr. Tej Sheth of the Hamilton General Hospital and colleagues identified a pronounced age effect in the seasonal variations in death rates (*J Am Coll Cardiol* 1999; 33:1916-9), based on a huge database of deaths in Canada. Seniors over age 85 had up to 16% higher rates of MI deaths in winter than in summer, and 19% higher stroke rates.

MI deaths were highest in January and lowest in September. The seasonal variation in MI deaths (winter versus summer) climbed with age: 5.8% in the under-65 age group, 8.3% in the 65-to-74 group, 13.4% in 75-to-84

group and 15.8% for people over 85.

Similarly, stroke mortality peaked in January and was lowest in September. As with MI, seasonal variation in stroke mortality also increased with age. Researchers identified no seasonal variation in people under age 65, but an 11.6% variation in the 65-to-74 group, 15.2% in the 75-to-84 group and 19.3% in those over age 85.

Sheth believes winter-related changes in clotting, immune system activity and blood pressure — all factors that make atherosclerotic plaques unstable and vulnerable to rupture — may be more pronounced in the elderly and lead to a higher incidence of MI. The limited data available suggest that winter's colder temperatures trigger these physiologic changes. "This is only a hypothesis, though," says Sheth. "We will need to test it in careful studies to confirm whether this is the case."

The Canadian-American research team analysed seasonal variations by month and for the 4 seasons. For each of 4 age groups, scientists labelled the magnitude of seasonal variation as the difference in mortality between seasons with highest and lowest frequency of deaths. Researchers looked at 300 000 deaths from the Canadian Mortality Database for the years 1980 to 1982 and 1990 to 1992. It is the largest North American study to date on seasonal mortality.

The findings, says Sheth, open up a new avenue for research into the prevention of cardiovascular disease. — *Greg Basky, Saskatoon*

## Promising new therapy for cancer

Cancer therapy could well be revolutionized if the potent antitumour activity of a new molecule works as well in humans as it does in mice. The startling findings in mouse models of cancer were published in a recent issue of *Science* (1999;285:1926-8, [www.sciencemag.org](http://www.sciencemag.org)).

The research builds on the pioneering work of Judah Folkman, a coauthor of the report. He made headlines when he proposed that cancer could be reversed by cutting off the blood vessels that supply tumours and allow them to grow. The growth of new blood vessels (angiogenesis) occurs only in a few physiologic conditions, including tumour growth and

pregnancy. Targeting angiogenesis could lead to new therapies that would be effective in all types of cancer. Folkman's research has spawned a huge effort in this direction.

In this experiment, scientists investigated antithrombin, a serine protease inhibitor (or "serpin"), whose usual job in the body is to inhibit clotting enzymes. By making a small change to the molecule, the researchers switched its role to inhibiting angiogenesis and tumour growth. The altered antithrombin acted to reverse angiogenesis and tumours in mice with cancer. The question for future researchers is whether it can do the same thing in humans safely and effectively.

## Organs

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Canadians to sign donor cards. "Governments should recognize the critical role of social attitudes in increasing organ donation and share the costs of a collaborative ongoing social-marketing strategy that crosses all societal groups to assist individuals in making personal decisions about organ and tissue donation."

Federal Health Minister Allan Rock described organ-related decisions as "very personal. As governments, our role is to create a comprehensive system that enables Canadians to make their wishes known and ensures that those in need can benefit from the donations that are made." More information is available at [www.hc-sc.gc.ca/english/archives/releases/99p/icebk5.htm](http://www.hc-sc.gc.ca/english/archives/releases/99p/icebk5.htm).