Doctors can't give their practice away

FOR SALE: family practice in rural Nova Scotia. Asking price: absolutely nothing.

Even when the price seems to be right, it remains extremely difficult to convince family physicians to set up shop in rural Nova Scotia. Dr. Susan Hergett and her husband, Dr. Brian Burke, recently closed their practice in Canning, a 2-hour drive from Halifax. In an effort to ensure that their 2000 patients had a family doctor, they offered to hand over their practice and all its equipment free of charge. They ran ads with the Medical Society of Nova Scotia and in journals like *CMAJ*. They even emailed every family medicine resident in Nova Scotia and Newfoundland. In the end, Burke, who is doing his residency in psychiatry at Dalhousie University, and Hergett, who is taking some time off to spend with their 2 children, received only 2 replies. There were no takers.

So, says Hergett, the practice and the equipment were sold for $1 to the Canning Village Commission, which is continuing the town's search for a family physician. Ironically, she notes, King's County, where her practice was located, has always been considered a favourable spot to practise. The scenic town is relatively close to both Halifax and Wolfville, a university town that has an active cultural community.

If financial incentives, a favourable location and a thriving practice aren't enough to convince doctors to set up shop, what will work? The answer may be absolutely nothing, says Dr. Louise Cloutier, president of the Medical Society of Nova Scotia. Cloutier is convinced that the key to recruitment and retention is to meet the needs of a new breed of doctor.

The society receives more than 400 phone calls a month from Nova Scotians looking for a family physician. The province estimates that it now has more than 40 vacancies for FPs, and Hergett says the shortage "is just starting to hit." — *Donalee Moulton*, Halifax

Medical marijuana law goes up in smoke

The federal government has a year to devise a better way to monitor who can use marijuana for medical purposes after an Ontario Court of Appeal ruling that the federal law prohibiting the possession of marijuana is unconstitutional.

"This seems to be a clear message from the courts to the federal government saying, 'Wait a minute, you have to get your act together on this,' " says Dr. Norbert Gilmore, associate director of the McGill Centre for Medicine, Ethics and Law. He says decisions on who can use marijuana for medicinal purposes are difficult to make, mainly because most existing research has focused on the drug's toxicity and not on potential benefits. "We need a better way to deal with those who rely on marijuana to alleviate their pain and suffering. Just slapping criminal sanctions on them is not enough."

Last October, Allan Rock lifted those criminal sanctions for 14 Canadian suffering from a range of illnesses, including AIDS and multiple sclerosis. This allowed them to grow and use marijuana without fear of arrest. The list has since grown to about 40 people.

Canapress

Catherine Devries, 1 of about 40 Canadians legally entitled to smoke marijuana, lights up in Kitchener, Ont., after a judge ordered police to return 21 g of the drug to her.

Obtaining the drug legally and proving its medical benefit are just 2 of many issues that are not dealt with under current federal law and must be addressed, according to both Gilmore and the Ontario Court of Appeal.

"Medically this is a very confusing area, but the bottom line is that the medicinal use of marijuana must be separated from recreational use," said Gilmore. "Many people believe it is helpful to them and they are using it for relief, not to get high." — *Steven Wharry*, CMAJ

© 2000 Canadian Medical Association or its licensors

Making muscles in mice and man

A Winnipeg researcher has created mighty mice whose regenerated muscles, deliberately crushed with a hemostat clamp, are bigger and stronger than their original muscles.

Dr. Judy Anderson's research into the role that nitric oxide plays in muscle regeneration will have many clinical applications for people who have lost muscle mass or injured a muscle because of age, disease, sports or space travel. She and her colleagues have discovered how to kickstart the satellite cells that make muscle tissue grow, a process that occurs in nature only when a muscle is injured or dystrophic.

"The secret to controlling muscle regeneration is an amino acid called levo-arginine that triggers the release of nitric oxide to stimulate satellite cells. These cells are activated and recruited to cycle as precursors for new muscle formation," says Anderson, a professor of human anatomy in the Department of Human Anatomy and Cell Science at the University of Manitoba.

Anderson says she has received numerous requests for more information about clinical applications of her discovery since her research was published in *Molecular Biology of the Cell* (2000;11:1859-74; **www.molbiolcell.org/cgi/content/abstract/11/5/1859**).

"One obvious treatment is for Duchenne muscular dystrophy, the disease that the Muscular Dystrophy Association of Canada funded me to investigate that led to my discovery," says Anderson. She says astronauts who have lost muscle mass because of time spent in zero gravity might also benefit from controlled precursor cell muscle regeneration.

"When they return from space they have to be carried out of their ship and undergo months of physiotherapy to regain muscle mass. I'm not sure they ever fully recover," she said.

Other clinical uses include the treatment of elderly people whose muscles degenerate naturally with age and athletes with injured muscles that require a long time to heal. "The healing process can be speeded up by switching on the satellite cells," she says.

Anderson has applied for a patent for her research, but cautions that a lot of work still has to be done before it can be tried on humans.

"We still don't know how to target a specific muscle. Although the mice in the study increased their muscle mass by 20%, all of their muscles were affected, including the heart," she says. — *David Square*, Winnipeg

David Square

Anderson poses with a mighty mouse whose regenerated muscles are stronger than its original.

Quebec med schools up enrolment for second year in row

Quebec is setting the bar high when it comes to increasing medical school enrolment in Canada. It added 65 seats in 1999, and 30 new places are being added this year. They will be divided among the province's 4 medical schools. This brings Quebec's total number of first-year students to 531, or roughly one-third of medical school admissions across the country.

Only a handful of provinces are following Quebec's lead, said Dr. David Hawkins, executive director of the Association of Canadian Medical Colleges. Ontario is considering a 10% increase in first-year enrolment, which would add about 60 places, while Alberta is adding 20 places at both the University of Alberta and University of Calgary.

"The [Quebec government] is responding to the obvious data that there's a shortage of doctors in Canada," says Dr. Abraham Fuks, the dean of McGill's medical school. He said the rate of increase in enrolment reflects the province's progressive social policies. "They're smarter and more socially responsible [than other provinces]."

Overseas, the United Kingdom is establishing 3 new medical schools with 1000 extra places. — *Susan Pinker*, Montreal

Licence revoked here, MD finally faces same fate in UK

A gynecologist who was allowed to practise in Britain after losing his licence in Canada was finally struck off the British register July 24. The General Medical Council, which regulates medicine here, admitted it was told of Richard Neale's Canadian record but took no action.

In 1998, the GMC even appointed him to assess the competence of other doctors suspected of malpractice. By then Neale was under investigation himself. When confronted at the time he said: "I think I would be able to offer some insight to other doctors who are in trouble. A wounded person is often the best healer."

Neale, 54, was trained in the UK. In the 1980s he had his operating privileges revoked in British Columbia and was ordered to undergo retraining. Instead, he moved to Ontario; he was struck off the register there in 1985 following the 1981 death of a patient who suffered an amniotic embolism and ruptured uterus after he administered oxytocin followed by prostaglandin.

While undergoing investigation in Ontario, he returned to the UK and became a consultant at the Friarage Hospital in Yorkshire. When tipped off by the Canadian authorities, both the GMC and the Yorkshire Health Authority decided to take no action. Neale eventually left Yorkshire and worked in several other areas, where he also undertook expert witness work for plaintiffs; those reports are now worthless.

The GMC found him guilty of 32 charges involving 12 patients. The charges included incompetence, operating without consent, carrying out unnecessary procedures, failing to monitor patients postoperatively and duping a patient into paying for private surgery.

Before his sentence was passed, Neale addressed the panel for 55 minutes. He broke down in tears as he pleaded to be allowed to remain on the register. He spoke of his Christian faith, his wife and 2 young children, and his "remarkable success rate." He blamed his downfall on 2 former patients who founded a support group. More than 150 women in Britain are complaining about their treatment from him, and many are suing him.

Canapress

Dr. Richard Neale: pleas fall on deaf ears

The GMC receives an average of 2742 complaints a year from patients, and revokes the licences of an average of 21 doctors a year. Most of those struck from the register apply for reinstatement, but only 1 in 4 succeeds. It is currently in the midst of a nasty spat with the British Medical Association, whose members recently voted "no confidence" in the regulatory body (see *CMAJ* 2000;163[4]:432). — *Caroline Richmond*, London, England

Staffing woes plague cancer treatment in Manitoba

Manitoba cancer patients are heading to the US for treatment because of a shortage of radiation therapists. The therapists, who had been without a contract since October 1999, finally signed a new 4-year deal in late July.

Ken Swan, labour relations officer with the Manitoba Association of Health Care Professionals, which represents more than 40 radiation therapists, says there are about 12 vacancies for radiation therapists in Manitoba but they are unlikely to be filled because of the greener pastures outside the province. "Young, mobile therapists are leaving to seek higher wages," he says. (The therapists provide the radiation prescribed by physicians.)

Dr. Brent Schacter, a medical oncologist and president and CEO of CancerCare Manitoba, says the 50 to 60 Manitoba patients who have been sent to the Altru Hospital in Grand Forks, North Dakota, represent only a small percentage of the 2800 patients treated with radiation in Manitoba each year at CancerCare. Schacter said the Manitoba government created a fund last fall to send patients to Grand Forks because of the shortage of radiation therapists and a long waiting list.

That waiting list may get even longer if x-ray technicians who supply some services to CancerCare walk off the job. They recently picketed in front of Winnipeg's largest tertiary hospital, the Health Sciences Centre, demanding parity with x-ray technicians in other provinces. "I could earn $3 per hour more if I moved to Saskatoon," said Al Saydak. He said the HSC's 65 x-ray technicians have been without a contract for 14 months and are the lowest paid in Manitoba and Canada.

Health Minister Dave Chomiak said he will not get into a bidding war for health care professionals, even though other provinces pay much higher wages and offer signing bonuses. — *David Square*, Winnipeg

Clinicians will benefit from new research initiative, CIHR promises

Ottawa's bold new approach to health research, which was on the drawing-board for almost 5 years, is reality after Allan Rock, the federal minister of health, launched the Canadian Institutes of Health Research in June. He also announced that the CIHR's inaugural president is Dr. Alan Bernstein, an internationally recognized cancer researcher. Exactly 22 days after the early-June launch, Bernstein cut the ribbon at the CIHR's new home at a downtown Ottawa office tower.

Among the 250 guests was Dr. Henry Friesen, former president of the now-defunct Medical Research Council of Canada, who is largely responsible for the conception, gestation and birth of the CIHR. "Twenty-two days is an appropriate time frame for this process," he says, "because that is the gestational period for a mouse or a rat!"

The traditionally structured MRC, which responded to applications for funds from researchers, has been replaced by an organization that intends to drive the research agenda itself. This became clear July 19 when CIHR announced the creation of 13 "virtual institutes" — networks of researchers across Canada —

Drs. Alan Bernstein (left) and Henry Friesen: a new start for medical research?

that will receive a share of the greatly increased research funding now available. The institutes cover areas ranging from aboriginal people's health to cancer research and genetics (**www/cihr.ca**).

The CIHR budget of $530 million is more than twice the size of the MRC's $260 million annual budget.

Four key themes will underpin CIHR-funded research. All institutes are expected to incorporate biomedical and clinical research, research respecting health systems and services, and research on societal, cultural and environmental influences on health. Bernstein says the emphasis on the last 2 priorities means that family doctors may play a more important role in Canadian research. "They can be a key part of the teams focused on the impact of the health care system."

Adds Karen Mosher, the CIHR executive director: "A crucial aspect of our work is the translation and dissemination of research findings to practitioners. We want to increase research uptake, so clinicians are kept up to date."

Denis Morrice, president and CEO of The Arthritis Society, says the CIHR "is going to help ordinary citizens understand what is happening in science. People with arthritis will sit on the relevant advisory board. I've never been so excited about research as I am today." — *Charlotte Gray*, Ottawa

FDA considering restricted access to "abortion pill"

Mifepristone, the controversial "abortion pill," may soon be available in the US, but the distribution rules may be so strict that they "hurt access."

"The whole point of this is to increase access for women and open [distribution] to different providers," says Sandra Waldman of the Population Council, the international nonprofit research institution that holds the drug's US patent.

Under the US Food and Drug Administration (FDA) proposal, only doctors trained to provide surgical abortions would be allowed to prescribe the drug and these doctors must have privileges at a hospital within 1 hour of their offices in case a blood transfusion is necessary (a rare occurence with mifepristone, according to the Population Council). Eligible doctors would be certified, and a confidential registry would be held by the drug's US distributor. The government agency rarely imposes such tight restrictions on a drug.

The FDA found mifepristone (RU-486) to be safe and effective in 1996, is discussing the distribution restrictions with the drug's distributor and the New York-based Population Council. Results from those discussions are expected at the end of September, when the application could be refused or extended for another 2 to 6 months.

But mifepristone has become a federal election issue, leading to fears that it may be delayed indefinitely. "If they don't get this approved before the [November] election and if the Republicans win, it will probably have a very difficult time getting approval," says Anne Burnett of the Planned Parenthood Federation of Canada.

"They are terrible restrictions," Burnett adds, "but I would like to see it get into the US under any circumstances." With US approval, she hopes the efficacy of the drug will be demonstrated and Canada won't impose the same restrictions. (The testing process here would likely take 2 to 3 years.)

Mifepristone has been available to women in many European countries for more than a decade. More than 500 000 women worldwide have used it, with few complications reported.

When taken with misoprostol, which has already been approved in Canada, mifepristone causes abortion – in essence a miscarriage – in 95% of women who are no more than 49 days pregnant.

Burnett says 50 million abortions take place worldwide each year, and many women die because they are done unsafely. "Getting this drug out there is so important," she says. — *Barbara Sibbald*, CMAJ

On the Net

Online information and support for depressed patients

Depression can be a private disorder that goes unrecognized and untreated. Fortunately, the Internet has literally hundred of online resources for these patients, including a couple that help people assess the extent of their problem.

The Internet Mental Health site (**www.mentalhealth.com**) is a recognized online leader in this area. Created by Vancouver psychiatrist Phillip Long, the site has received numerous awards from professional and Web-based organizations.

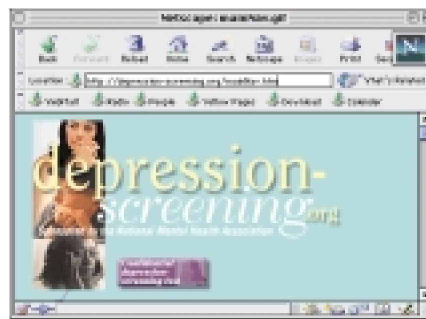
The site describes itself as an encyclopedia of mental health information and includes information and descriptions of various disorders, notes about various mental health drugs and an online magazine of current news and research.

One of the more interesting sections includes an online diagnosis tool; various questionnaires cover many disorder areas, including depression. It can either be taken by the patient or administered by a clinician. In each case it delivers a basic diagnosis and treatment plan.

The site stresses that this is only a tool: "This program is offered by Internet Mental Health as an aid to diagnosis and is not a substitute for expert clinical judgement by a licensed mental health professional."

The US-based National Mental Health Association has a similar tool (**www.depression-screening.org**) that offers plenty of information about various depressive disorders and includes a self-directed screening tool. Shela Halper, vice-president of public education at the NMHA, stresses that this online service is not meant to be the only tool used to identify the problem.

"It is important that people understand this Web site can not and should not substitute for a visit to their doctor or a qualified mental health professional," states Halper. "It is designed only to be a first step. While screening tests can help uncover the symptoms, they can not provide a diagnosis for depression."



Finally, for patients wanting interaction with others, there are online discussion groups in the ALT.SUPPORT.DEPRESSION and SOC.SUPPORT.DEPRESSION areas of Usenet. — *Michael OReilly*, mike@oreilly.net

Hawaii first to pass medical marijuana bill

Hawaii has become the first state to legalize the growth, possession and use of marijuana for prescribed medical purposes.

Under the new Hawaii law, which came into effect in June, patients with qualifying illnesses must obtain a doctor's recommendation to use marijuana. They must then register with the state's Department of Public Safety to avoid criminal charges. An estimated 500 to 1000 people in Hawaii are now eligible to grow, possess and use medical marijuana if they have registered with the state.

A national advocacy group, the Marijuana Policy Project (**www.mpp.org**), calls the Hawaii law "landmark legislation" that could make it easier to have similar laws approved in other states. The group is working to have medical marijuana bills introduced in 40 other states. — *Barbara Sibbald*, CMAJ

Fire-safe cigarettes ignite New York

Within 3 years, New York will be the first US state to sell only fire-safe, self-extinguishing cigarettes. The move is designed to cut down on fires caused by careless smokers, which account for at least one-third of US fire deaths. About 1000 Americans and 100 Canadians die in such fires each year (*CMAJ* 2000;163[1]:73).

When New York's legislation takes effect July 1, 2003, wholesalers who sell regular cigarettes will be subject to $10 000 fines; retailers will be fined $500 for selling up to 5 cartons of the cigarettes and $1000 for selling more than 5 cartons. Massachusetts is considering similar legislation.

Philip Morris USA, the country's biggest cigarette manufacturer, test marketed its new fire-safe cigarettes in 2 US cities for 6 months, with positive results. "It's absolutely a good idea," says spokesperson Katie Otto. The company's new "reduced-ignition-propensity cigarettes" have rings of ultra thin paper on top of the regular paper; they act as speed bumps to slow down the rate of burning.

Industry critics say the technology for fire-safe cigarettes has been available for a century, but Otto says Phillip Morris didn't start development until the late 1980s. Its biggest concern, aside from fire safety, was to ensure that the cigarette tasted the same so consumers wouldn't switch to a brand that wasn't fire safe.

The tobacco industry now wants national fire-safe standards established throughout the US, as "opposed to 50 conflicting standards." There are no national standards in Canada. — *Barbara Sibbald*, CMAJ

Pulse

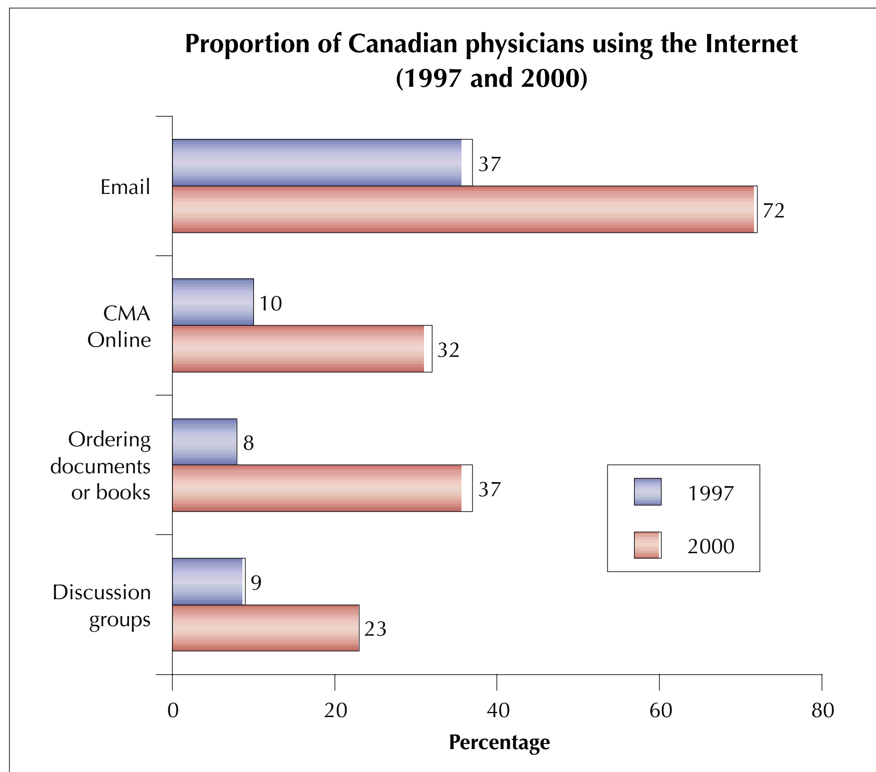
More Net-savvy MDs surfing the Web

Results from the CMA's 2000 Physician Resource Questionnaire indicate that the number of Canadian physicians using the Internet is still on the upswing. The proportion of those on the Net increased from 66% in 1999 to 76% in 2000, and 42% of those who are not yet "wired" plan to do so in the coming year.

More male physicians than female use the Internet (78% v. 72%), but the gap continues to narrow. In 1999, 70% of male physicians and 58% of females used the Internet, up from 61% and 44% in 1998. Physicians in the oldest age groups are still least likely to be online: 70% of those aged 55 to 64 and 44% of those 65 and older use the Internet, while more than 80% of doctors up to age 55 are connected. With an online rate of 83%, medical specialists are more likely to use the Internet than either GP/FPs (72%) or surgical specialists (77%).

The proportion of physicians using email has almost doubled in 3 years, from 37% in 1997 to 72% in 2000. Frequency of email use is also on the rise, as 87% of those who use email did so daily or weekly, compared with 78% in 1997.

Thirty-seven percent of physicians have ordered documents and books online, up from 27% a year ago, while 23% have participated in online discussion groups. Medical-oriented Web sites are popular with physicians: 64% conduct MEDLINE searches online, 58% browse or read online medical journals, 44% read news about medicine and health care, and 49% visit other physician-oriented sites. *CMA Online* is visited at least occasionally by 1 in 3 Canadian physicians. — *Shelley Martin*, martis@cma.ca



MDs get jail terms, fines as new police squad targets health fraud

Physicians are among the targets as Canada's first health care fraud squad operated by police officers starts cracking down on swindles that have cost Ontario taxpayers millions of dollars.

Since 1998, more than 500 cases have been referred to the Ontario Provincial Police (OPP) Health Fraud Investigation Unit. The vast majority — 395 cases — involved alleged fraud by people who use the Ontario Health Insurance Plan (OHIP) illegally. There were also cases of double doctoring in which patients used several doctors to obtain controlled drugs by prescription, as well as 60 alleged cases of fraudulent billing by health care practitioners, including physicians.

If a physician is convicted of fraud, the provincial college automatically deems it discreditable conduct and has the option of, among other things, suspending or revoking the doctor's licence to practise.

Detective Staff Sergeant Keith Messham, who heads the fraud unit, says it is currently pursuing 10 cases of alleged fraud by physicians and pharmacists in the courts; the fraud involves an average of about $800 000 per case.

Ontario's police unit is a first in Canada, since other provinces rely on internal audits and inspection committees that look into billing irregularities. Newfoundland's medical board recently launched a 2-year pilot Prescription Monitoring Program to crack down on double doctoring and prescription drug abuse, a program that is already in place in several provinces.

Before 1998, health fraud in Ontario was investigated by a civilian unit within the Ministry of Health, but results from 2 independent audits caused the ministry to ask the antirackets section of the OPP to conduct all investigations of fraud involving the use of and payment for health services. The officers had to study the Health Insurance Act and its regulations, as well as in the schedule of benefits.

The squad, launched in April 1998 with 9 investigators plus Messham, doubled in size within a year. The 20 staff members now include 3 proceeds-of-crime investigators who attempt to recover funds obtained illegally. For example, if a physician uses ill-gotten gains to buy a house or boat, the unit may be able to seize that property. The growth continued this spring, when the province announced that a further $6 million is being dedicated to fighting health care fraud.

Messham says the unit's workload is growing as more people learn about it. "We're getting a lot more referrals from the public and other police agencies," he says. Most referrals come from the ministry's Provider Services Branch, which monitors physicians' billings, and from the Registrations and Claims branches, which are responsible for issuing and validating health cards and services. Messham says that "certain flags," such as out-of-whack billing patterns, pique the interest of these branches.

User fraud usually involves Ontario residents who "lend" their cards or who "double doctor" to obtain multiple prescriptions of a controlled substance. It also involves people who obtain health services illegally in Ontario. Under Canada's Criminal Code, people found guilty of fraud can face prison terms of up to 10 years, plus large fines.

Fraudulent billing by physicians takes several forms: billing for medically unnecessary services, for services that weren't performed and for unnecessary medical referrals, as well as "upcoding" — billing for a more expensive service than the one actually provided.

The fraud unit's largest case to date involves 62-year-old Stephen Kai Yiu Chung, who is alleged to have posed as a physician in Hamilton and is charged with defrauding OHIP of $4.5 million. Other physicians have already pleaded guilty to defrauding OHIP.

Dr. Alexander Scott of Kingston was sentenced to 30 months in penitentiary after defrauding OHIP of almost $600 000; he also forfeited $124 000 in an RRSP portfolio. Dr. Donald MacDiarmid of Ajax, who had false billings worth $150 000, received an 18-month conditional sentence to be served at home and was ordered to repay the money. He was also fined $100 000 and repaid the clinic where he worked $150 000. Dr. Gustavo Tolentino, a Toronto general practitioner who practises psychotherapy, pleaded guilty to defrauding OHIP of $55 000 between 1995 and 1998. He repaid the money and received a 12-month conditional sentence. (So far, only Scott has been referred to the Ontario college for a disciplinary hearing.)

The most complex case to date is ongoing. It involves 12 doctors at a Mississauga walk-in clinic who are charged with defrauding OHIP of about $2 million between Jan. 1 and Dec. 31, 1997. — *Barbara Sibbald*, CMAJ

UK pays for prescribed exercise

Couch potatoes in the UK are now able to stretch their legs on the government's penny because the National Health Service will pay when patients at risk of heart disease or stroke use swimming pools or leisure centres.

More than 200 GP practices in England are offering "exercise on prescription" and the scheme is being expanded. Public Health Minister Yvette Cooper says the program could "significantly improve health and prevent cases of heart disease or stroke."

Seven in 10 English adults are considered too inactive and 20% of women and 17% of men are obese, according to a report done for the Department of Health. The proportion of the population now classified as obese has risen by 4% since 1993. The government has pledged to cut levels of obesity, smoking and heart disease over the next decade. — *Barbara Sibbald*, CMAJ

Mr. Day goes to Ottawa

Can Stockwell Day win the next federal election? And if he does, what impact will he have on health care?

Surprise at Day's runaway victory in the race to head the Canadian Alliance quickly gave way to speculation about his impact on federal politics. His youthful looks and penchant for flexing his biceps at every photo op create the impression that he represents a new generation of Canadians. At 49, however, the former Alberta treasurer is no spring chicken, and his fundamentalist views — he opposes abortion and believes every word of the Bible is true — are out of step with those of most Canadians, especially younger ones. In politics, however, perception is everything, particularly when the present resident of 24 Sussex Drive is 66 and looking every year of it.

As soon as Day's victory was announced, the tectonic plates of Canadian politics began to shift. Public support for the Alliance jumped, and the Tories slumped to the sad status of rump party. The Liberals maintained a comfortable lead nationally, but dissatisfaction with Jean Chrétien because of his determination to fight a third election was palpable. And if Finance Minister Paul Martin leaves, as has been rumoured, the Liberals will be left with an aging leader and without their most attractive selling point.

Stockwell Day: fishing for votes

So given all the changes on the political landscape, can the Day-led Alliance win the next federal election? Probably not, although the party will probably make the Ontario breakthrough it lusts for. In 1997 the Liberals swept Ontario because the right-wing vote was split between the Reform Party and Tories, but the Tory collapse means the Alliance might take 20 Ontario seats. It is unlikely to make any gains east of Ontario, however, and it can't increase its representation in the West enough to challenge the Liberals.

So we will not see Stockwell Day leading the next government but we will probably see him wielding considerable power as party strategists start calculating the odds of a minority Liberal government. The Liberals may be reduced to 145 seats nationally, with the Alliance winning 105 seats and the Bloc Québécois holding the balance of power. That means the Alliance and Bloc will seek areas where they can challenge the Liberals, and the most obvious place for their agendas to meet is in areas involving the turnover of federal powers to the provinces.

Although the parties have different goals, each sees in the other an opportunity to defeat the hated Grits. Stockwell Day wants to strip Ottawa of powers and responsibilities that he thinks would be better exercised provincially. He has endorsed a radical proposal to reverse the current fiscal system: he wants the provinces to collect all taxes and then allocate funds to the central government. The Bloc wants to transfer powers from Ottawa to an independent Quebec, and will happily go along with any policies proposed by Day that achieve that end by stealth rather than open secession.

Such decentralization will destabilize health care, although it is not yet clear exactly how. "Day's public track record on health care is minimal in Alberta," says Ron Kustra, assistant executive director of public affairs at the Alberta Medical Association. "He was never health minister here, in Klein's government, and he wasn't treasurer when the provincial government cut health spending in the early '90s. But he was a key member of the Klein team and shared the view that there is nothing sacred in the status quo. He is open to new ideas and relationships."

Day didn't say much about health care during the recent leadership race, even though there were plenty of opportunities: the future of the health care system is the number-one concern of most Canadians, and Dr. Keith Martin, another leadership candidate, tried to spark a debate on a two-tier system. Day wouldn't bite.

However, the Alberta government's recent battle to pass Bill 11, which in its original form would have legalized private medical clinics, involved mass antigovernment demonstrations and sit-ins at the legislature. If this can happen in the province most sympathetic to free-market economics, what would happen if Day talked about similar proposals on the national stage?

Day did endorse the 1998 Saskatoon Consensus, in which all provinces supported Quebec's argument that if Ottawa introduces a new social program, any province has the right to opt out and keep the cash. He does not think Ottawa should play the policing role assigned by the Canada Health Act, and his years in the Klein government (and the friends he made there) have left him sympathetic to two-tier health care.

Day's arrival in federal politics at a time when there has never been such pressure on medicare can only make its preservation in any form more difficult. — *Charlotte Gray*, Ottawa

RNs seek broader prescribing powers in quest for more autonomy

In a bid to increase autonomy for specially educated RNs, nursing associations in Ontario and Alberta are seeking extended prescriptive authority and the Canadian Nurses Association is asking Health Canada to allow these nurses to prescribe many controlled medications. "Prescriptive authority is a logical part of the [extended practice] role," says Sandra MacDonald-Rencz, the CNA's director of policy and research. "These nurses are educated to function in autonomous positions."

Specially educated nurses in parts of 3 provinces are already authorized to prescribe certain drugs; meanwhile, RNs in remote parts of Canada have been prescribing for years but the practice is situational and standards are inconsistent.

The CNA says new regulations would provide that consistency. They would also allow physicians to know what their nursing colleagues are qualified to do and reduce the need to delegate prescriptive authority, which can carry legal risks.

In Alberta, Newfoundland and Ontario, extended-practice nurses have already received authority from their provincial regulatory body to diagnose, manage illness and prescribe in certain circumstances. Ontario's 400 RN(EC)s [extended class] have been performing these duties since February 1998 and are allowed to prescribe some antibiotics, nonsteroidal anti-inflammatory drugs (NSAIDs), contraceptives and other drugs. These nurses have a degree in nursing, a minimum of 2 years' primary care experience and have completed a 13-month postgraduate program.

On the east coast, Newfoundland's 24 nurse practitioners prescribe a range of medications, including anti-infective drugs, hormones and NSAIDs. They also have prescriptive authority during emergency situations such as acute asthma attacks. These nurses are responsible for knowing when a case is beyond their scope; they then consult a physician.

"Nurses don't want to be doctors," says Debbie Phillipchuk, a practice consultant with the Alberta Association of Registered Nurses (AARN). "Nurses want to prescribe within the roles they have." Alberta's extended class of RNs, who work exclusively in Northern and remote settings, prescribe many drugs. Now AARN is trying to give limited prescriptive powers to RN(EC)s in more populous areas, through the province's new Health Professions Act.

The association wants nurses to be able to prescribe certain drugs in certain practice situations. For example, an RN(EC) in a long-term-care setting might adjust palliative care medications or treat urinary tract infections or other common disorders within that population. These nurses would have to advise a physician of their actions. "RNs take very seriously the responsibility of prescribing and they feel there must be real restrictions on when and why," says Phillipchuk.

Alberta recently put another model to the test in Elnora, a town of 250 people 100 km northeast of Calgary, which has no doctor. This past year a nurse practitioner worked independently in the town in an extended role that included making some diagnoses and writing some prescriptions. She consulted with 2 physicians in neighbouring Trochu. The project was approved by both the Alberta Medical Association (AMA) and the provincial pharmacists' association.

"Sure physicians will feel threatened," says AMA CEO Dr. Bob Burns, "but we aren't going to be paternalistic about this or view it in terms of turf." The AMA wants to ensure that any professional group that has prescribing authority has demonstrated "robust" knowledge, has training standards and is self-regulating. Burns says the AMA's deepest concern surrounds the complexity and interactivity of pharmaceuticals. "The training must be quite extensive," he says.

The CNA concurs. Its brief to Health Canada's Office of Controlled Substances details the knowledge RNs would need to prescribe: training in pharmacology, pharmacotherapeutics, writing prescriptions, teaching and more. The brief also maintains that nurses have adequate systems in place to support expanded prescriptive authority and specifies which controlled drugs RNs should be authorized to prescribe.

The Office of Controlled Substances, which monitors drugs such as narcotics and barbiturates, is preparing regulations for its new Controlled Drugs and Substances Act (formerly the Narcotics Control Act). Currently, the office is looking at which professionals, in addition to physicians, dentists and veterinarians, should be authorized to prescribe these drugs.

But even if the federal government decides to give the nurses the right to prescribe controlled drugs, it's still up to each province and individual nursing regulatory body to decide whether to give the RNs more prescriptive authority.

The CNA brief argues that expanded authority would improve access to primary health care, allow for more flexible service delivery, legitimize current practices and help control spending.

Similar moves are already under way outside Canada. American nurse

practitioners have limited authority to prescribe, and nurses in 11 states can prescribe controlled drugs. They report that their involvement reduces physicians' workload and saves them time. Meanwhile, England is implementing prescribing rights for all district nurses, health visitors and practice nurses by mid-2001. Other countries, including Iceland and New Zealand, are in the process of developing legislation.

"The health care system has to change," says MacDonald-Rencz. "The bottom line is that health care workers must work in a way that is responsive and in the best interest of the public." — *Barbara Sibbald*, CMAJ

CMA survey shows fee-for-service not dead yet

The declining popularity of fee-for-service (FFS) payments in Canada may have levelled off, the CMA's 2000 Physician Resource Questionnaire (PRQ) indicates. In 2000, 62% of respondents reported receiving 90% or more of their professional earnings from fee-for-service payments, the same level as in 1999. This follows steady declines in the popularity of FFS payments since 1990, when the level stood at 68%.

There has also been a change in terms of *preferred* modes of remuneration. Between 1995 and 1999 there was a large decrease in the proportion of physicians who preferred fee-for-service remuneration (50% compared with 33%), but that proportion increased this year, to 37%. Only 49% of physicians are paid via the method they would prefer. "I would actually prefer salary," one physician noted, "but no plan exists that adequately compensates for the stress and volume that we are expected to cope with."

Almost one-third (32%) of physicians reported a decrease in net income in the 2000 PRQ, while only 18% reported an increase; for 81% of those whose income decreased in the past year, workload stayed about the same or increased.

Thirty-eight percent of surgical specialists reported decreased net income, compared with 27% of medical specialists and 34% of GP/FPs. Urban physicians were more likely to have faced a decrease than their rural counterparts (33% v. 25%).

More than half (55%) of respondents saw their workload increase in the past year. Among those who reported a heavier workload, only 24% saw an accompanying increase in net income, while 31% witnessed a decrease. Overhead expenses increased for 61% of respondents.

The number of hours worked, excluding call, remained virtually unchanged in the last year: 53 hours per week, compared with 54 hours in 1999. Female physicians continue to work fewer hours than males (48 hours per week v. 56 hours). Surgeons work more hours (58) than both medical specialists (54 hours) and GP/FPs (51 hours).

Seventy-six percent of respondents take or share call, with surgeons (88%) most likely to take call, compared with medical specialists (77%) and GP/FPs (71%). Only 12% of doctors who provide on-call services away from the hospital are compensated for being available.

Rural physicians appear to be better off in this regard than their urban colleagues: 37% are paid for carrying a phone or pager, compared with 10% of urban physicians; 60% are paid for being on site, compared with only 31% of urban physicians.

This year, the PRQ queried physicians about factors that impede attempts to provide health promotion counselling. Lack of time was cited as always or often a barrier by 48% of physicians, with 59% of GP/FPs saying that they always or often face time shortages, compared with 32% of medical specialists and 42% of surgical specialists. Thirty-four percent of respondents noted that a lack of services and support in the community is always or often a barrier to counselling; this is always or often a problem for 43% of rural physicians, compared with 33% of urban doctors.

The 2000 PRQ was mailed to a random sample of 8000 Canadian physicians, and the response rate was 36.3%. Results are considered accurate to within ±1.9%, 19 times out of 20. More than 20 tables from the 2000 PRQ results are available online at **www.cma.ca/cmaj/vol-163/issue-5/prq**. — *Shelley Martin*, CMA

"My office has become my prison"

The following random verbatim comments were made by respondents to the 2000 PRQ.

- "I have given up trying to find locums, and I yearn to escape the office that has become my prison."
- "Thank goodness for the feminization of medicine, which is waking up a lot of us old workaholics."
- "After Mar. 17, I will never do call again. I have been on the end of a beeper for a quarter to a third of my life."
- "All physicians should be required to take call. I am appalled that some physicians close at 4 pm and leave a message directing patients to the ER."
- "The demands of providing hospital care to orphaned patients are growing and are going to keep growing as we lose physicians and others give up their hospital privileges."
- "There are no young doctors out there looking to set up shop. Where are they?"

Clinical Update

COX-2 inhibitors and renal function in elderly people

Swan SK, Rudy DW, Lasseter KC, Ryan CF, Buechel KL, Lambrecht LJ, et al. Effect of cyclooxygenase-2 inhibition on renal function in elderly persons receiving a low-salt diet: a randomized, controlled trial. *Ann Intern Med* 2000; 133:1-9.

Background

About 10 million prescriptions for NSAIDs are dispensed yearly in Canada.[1] NSAIDs exert their effects through the inhibition of cyclo-oxygenase (COX), an enzyme that catalyses the synthesis of prostaglandins. Two isoforms of COX (COX-1 and COX-2) have been identified. Traditional NSAIDs inhibit both of them, whereas the newer COX-2 inhibitors selectively inhibit COX-2. Although renal failure can occur with traditional NSAIDs, it is unclear whether this risk can be avoided with the use of COX-2 inhibitors.

Question

Does rofecoxib, a COX-2 inhibitor, impair renal function in elderly people?

Design

This randomized, double-blind, placebo-controlled trial enrolled elderly people aged 65–80 years.[2] Numerous exclusion criteria applied; all subjects were in good general health and took no medications that might impair renal function. Subjects were randomly assigned to receive a 5-day course of one of the following treatments: rofecoxib, 12.5 mg/d; rofecoxib, 25 mg/d; indomethacin, 50 mg 3 times daily; or placebo. All subjects were placed on a low-sodium diet 8 days before randomization. The primary end point was the glomerular filtration rate (GFR), calculated by measuring iodine-125–iothalamate clearance before and after treatment.

Results

Sixty subjects (15 in each treatment arm) completed the study. The mean age was 72 years. Compared with placebo, multiple doses of rofecoxib 12.5 mg/d, rofecoxib 25 mg/d and indomethacin 150 mg/d decreased the GFR by a mean of 0.14 mL/s (p = 0.019), 0.13 mL/s (p = 0.029) and 0.10 mL/s (p = 0.086) respectively. The reductions in GFR were comparable between the rofecoxib and indomethacin groups.

Commentary

This study found that rofecoxib impaired renal function among the elderly subjects as much as a traditional NSAID. The results are likely generalizable to other COX-2 inhibitors, given similar findings with celecoxib.[3] Whether the results can be generalized to younger patients is unknown. The low-sodium diet, which mimics a state of decreased circulating volume, may have exaggerated the observed reduction in GFR. Conversely, the exclusive use of healthy subjects and the short duration of drug exposure may have underestimated the usual risk among elderly patients. Of note, this study did not look for other renal complications of NSAIDs, such as interstitial nephritis.

Practice implications

Like traditional NSAIDs, selective COX-2 inhibitors can impair renal function. These drugs, therefore, should be used with caution in elderly patients, in patients with renal insufficiency and in patients with decreased circulating volume because of diuretic use, congestive heart failure or cirrhosis. — *Benjamin H. Chen*

The Clinical Update section is edited by Dr. Donald Farquhar, head of the Division of Internal Medicine, Queen's University, Kingston, Ont. The updates are written by members of the division.

References

1. Tamblyn R, Berkson L, Dauphinee D, Gayton D, Grad R, Huang A, et al. Unnecessary prescribing of NSAIDs and the management of NSAID-related gastropathy in medical practice. *Ann Intern Med* 1997;127:429-38.
2. Swan SK, Rudy DW, Lasseter KC, Ryan CF, Buechel KL, Lambrecht LJ, et al. Effect of cyclooxygenase-2 inhibition on renal function in elderly persons receiving a low-salt diet: a randomized, controlled trial. *Ann Intern Med* 2000; 133:1-9.
3. Rossat J, Maillard M, Nussberger J, Brunner HR, Burnier M. Renal effects of selective cyclooxygenase-2 inhibition in normotensive salt-depleted subjects. *Clin Pharmacol Ther* 1999;66: 76-84.

Clinical Update

Utility of the clinical examination for carpal tunnel syndrome

D'Arcy CA, McGee S. Does this patient have carpal tunnel syndrome? *JAMA* 2000;283:3110-7.

Background

Carpal tunnel syndrome (CTS) is commonly seen in primary care practice.[1] Patients with CTS present with one or more symptoms of pain, numbness or weakness in the hand. Physicians base their diagnosis of CTS on findings from history taking and physical examination, and confirm its presence with electrodiagnostic testing.

Question

Which features of history taking and physical examination are most useful in diagnosing CTS?

Design

The authors conducted a systematic review to ascertain the precision and accuracy of history taking and physical examination for the diagnosis of CTS.[2] Only studies that independently compared findings on clinical evaluation with the results of electrodiagnostic testing were included. The sensitivity, specificity and likelihood ratios were calculated for history-taking items and physical diagnosis manoeuvres.

Results

Twelve studies fulfilled the authors' inclusion criteria. Agreement among physicians for the findings of CTS (precision) was assessed in very few studies. The best sign for ruling in favour of CTS was decreased sensitivity to pain in the median nerve distribution, as assessed by comparing subjects' responses to painful stimuli on the index finger and the ipsilateral little finger (pooled likelihood ratio 3.1; 95% confidence interval [CI] 2.0–5.1). Weakness of thumb abduction and hand diagrams marked by patients to indicate the distribution of their symptoms were also useful. The presence of nocturnal or bilateral symptoms, and many of the physical manoeuvres long associated with CTS, such as Tinel's and Phalen's signs, did not differentiate between those with and those without this condition. As well, the absence of diminished pain sensation in the median nerve distribution did not rule out the possibility of CTS.

Several other lesser-known physical examination manoeuvres showed promise in the diagnosis of CTS but will require further validation. For example, one study found that the "flick sign" (patients flick their wrists and hands in a motion similar to that used when shaking out a thermometer when they are asked "What do you actually do with your hands when the symptoms are at their worst?") was helpful in ruling in and ruling out a diagnosis of CTS (likelihood ratio for positive finding 21.4, 95% CI 10.8–42.1; likelihood ratio for negative or absent finding 0.1, 95% CI 0.0–0.1). This manoeuvre has not been validated in other studies.[3]

Commentary

This is the latest article in the *Journal of the American Medical Association*'s Rational Clinical Examination Series, which appraises the published literature on the accuracy of clinical examination.[4] Most of the studies included in the review drew their subjects from referral-based populations, and thus the subjects may not reflect patients seeking an opinion from a primary care physician. As well, electrodiagnostic studies can be negative in the presence of early carpal tunnel syndrome and may not represent an adequate "gold standard" by which to evaluate the clinical examination in all cases of CTS. Nevertheless, several clinical findings were determined to be helpful in diagnosing CTS in this population of patients.

Practice implications

When examining a patient for the presence of CTS, decreased pain sensation in the median nerve distribution is the most helpful finding in making the diagnosis. Many of the classic manoeuvres taught to physicians are of little use in diagnosing the condition, whereas newer techniques hold promise and should be validated in the primary care setting. — *Kathryn A. Myers*

The Clinical Update section is edited by Dr. Donald Farquhar, head of the Division of Internal Medicine, Queen's University, Kingston, Ont. The updates are written by members of the division.

References

1. Miller RS, Iverson DC, Fried RA, Green LA, Nutting PA. Carpal tunnel syndrome in primary care: a report from Ambulatory Sentinel Practice Network. *J Fam Pract* 1994;38:337-44.
2. D'Arcy CA, McGee S. Does this patient have carpal tunnel syndrome? *JAMA* 2000;283:3110-7.
3. Pryse-Phillips W. Validation of a diagnostic sign in carpal tunnel syndrome. *J Neurol Neurosurg Psychiatry* 1984;47:870-2.
4. Rational Clinical Examination Series. *JAMA*. Available: www.sgim.org/interestgroups/clinexam.html#RCE (accessed 2000 July 31).

Public Health

Anthrax: of bison and bioterrorism

Epidemiology

Anthrax develops when endospores of *Bacillus anthracis* enter the body through ingestion, inhalation or skin abrasion. The spores are long lasting and resistant, favouring moist, alkaline soil with high organic content. Anthrax is primarily a disease of herbivores, which are exposed to the spores while grazing. Outbreaks tend to occur after heavy rainfall followed by drought. "Anthrax zones" in Canada include the western Prairies, northern Alberta and the Northwest Territories.[1] Since the implementation of livestock vaccination programs in Canada, animal outbreaks have been rare. Anthrax continues to be endemic in West Africa, Spain, Greece, Turkey, Albania, Romania and Central Asia, where veterinary control programs are inadequate.[2]

Anthrax in humans most often results from agricultural or industrial contact with contaminated animals or animal products. Cases in North America have been virtually eliminated thanks to animal vaccination and industrial sanitary programs, the restriction of imported wool, hides and other products and the proper disposal of infected animals. Anthrax is not a notifiable disease in Canada; a literature search found only 1 case report, of cutaneous anthrax in British Columbia in 1991.[3] In the United States, only 3 cases were reported between 1984 and 1993.[4] Despite its low incidence, anthrax has received attention because of its potential use in biological warfare.[5] In 1997 the American Department of Defense announced the mandatory vaccination of all service personnel; Canada issued a similar requirement for personnel serving in the Persian Gulf.

Clincal management

B. anthracis endospores germinate at the primary site of infection, causing local edema and necrosis. When phagocytosed by macrophages they migrate to lymph nodes and cause regional hemorrhagic lymphadenitis.[6] Hematogenous spread can lead to severe septicemia, toxemia and, rarely, hemorrhagic meningitis. The toxin consists of at least 3 proteins. Edema factor increases intracellular cyclic adenosine monophosphate levels, resulting in massive edema; lethal factor plays a role in the expression of tumour necrosis factor and interleukin-1, leading to shock; and the protective antigen acts as a membrane channel, transporting the other 2 proteins into the cell cytoplasm.[4]

Cutaneous anthrax accounts for 95% of human cases in North America.[6] The primary lesion is usually a nondescript, painless, pruritic papule, often on the head, neck or extremities, that appears 3–5 days after exposure. In 24–36 hours the lesion forms a vesicle that undergoes central necrosis and dries, leaving a characteristic black eschar, which usually sloughs off in 2–3 weeks. The disease, usually localized, becomes systemic and potentially fatal in 5%–20% of cases if untreated.[6] Inhalational anthrax is rare, producing often-fatal hemorrhagic mediastinitis. The initial symptoms — fever, nonproductive cough, myalgia and malaise — may present as late as 6 weeks after exposure. Radiographs may show a widened mediastinum and marked pleural effusions. After 1–3 days the disease enters a rapid, fulminant course with dyspnea, strident cough and chills, culminating in death.[6] Gastrointestinal anthrax, extremely rare, results from the ingestion of contaminated meat; death results from intestinal perforation or anthrax toxemia.

Gram's staining and culture of pertinent body fluids should be done.[4,5] Excision of eschars is contraindicated since it may speed dissemination. Penicillin is the drug of choice, with ciprofloxacin and doxycycline as suitable alternatives.[7] (Ciprofloxacin is the drug of choice if bioterrorism is suspected.[5,7])

Prevention

The human anthrax vaccine was licensed for use in the United States in 1970.[5,7] It is an inactivated, cell-free product designed to be given in 6 doses. In addition to military personnel, the vaccine is recommended for workers who come into contact with imported animal products such as hides, wool, hair (especially goat hair) and bristles, and for people doing diagnostic or investigational activities that may bring them into contact with anthrax spores. The vaccine is not licensed for use in Canada but can be obtained through Health Canada's special access program.

Vaccination of military personnel has met with some opposition because of the paucity of evidence of its long-term side effects and effectiveness. A recent systematic review of the effectiveness of anthrax vaccines in humans[8] identified only 2 trials (a US study conducted in 1962 using an inactivated vaccine similar to the current US one, and a Russian study conducted in 1976 using a live, attenuated vaccine). Although both studies had methodological limitations, the reviewers concluded that, overall, anthrax vaccines were safe and efficacious, with an overall efficacy of 84% and a variable but low incidence and severity of side effects. They remarked on the lack of trials to evaluate newer vaccine formulations. — *Erica Weir*, CMAJ

References

1. Dragon DC, Elkin BT, Nishi JS, Ellsworth TR. A review of anthrax in Canada and implications for research of the disease in northern bison [review]. *J Appl Microbiol* 1999;87:208-13.
2. Hugh-Jones M. 1996–97 global anthrax report. *J Appl Microbiol* 1999;87:189-91.
3. Wong C, Ng T. Cutaneous anthrax — British Columbia. *Can Dis Wkly Rep* 1991;17(6):31-3.
4. Shafazand S, Doyle R, Ruoss S, Weinacker A, Raffin TA. Inhalational anthrax: epidemiology, diagnosis, and management. *Chest* 1999;116:1369-76.
5. Inglesby TV, Henderson DA, Bartlett JG, Ascher MS, Eitzen E, Friedlander AM, et al. Anthrax as a biological weapon: medical and public health management [review]. *JAMA* 1999;281:1735-45.
6. Dixon TC, Meselson M, Guillemin J, Hanna PC. Anthrax [review]. *N Engl J Med* 1999;341:815-26.
7. Pile JC, Malone JD, Eitzen EM, Friedlander AM. Anthrax as a potential biological warfare agent. *Arch Intern Med* 1998;158:429-34.
8. Jefferson T, Demicheli V, Deeks J, Graves P, Pratt M, Rivetti D. Vaccines for preventing anthrax [Cochrane review]. In: The Cochrane Library; Issue 3, 2000. Oxford: Update Software.