British Columbia doctors have won an appeal court battle that prevents the provincial government from paying physicians trained outside the province less than those trained in BC. Under a system introduced in 1994, physicians trained outside BC who were setting up practices in places like Vancouver that were deemed to have too many physicians received reduced fees for the first 5 years, after which they were eligible for billing numbers that paid the full rate anywhere in the province. This agreement was challenged by the Professional Association of Residents of BC on the grounds that it violated physicians’ mobility rights under the Canadian Charter of Rights and Freedoms. The doctors won that case in 1997 but the government appealed. The BC Court of Appeal decision, handed down last month, still allows the government to set variable fees for overserviced and underserviced areas as long as they do not discriminate against doctors trained outside BC. Thus far, the government has kept fees in these areas the same.

Dr. Ian Courtice, president of the BC Medical Association, calls the court decision “a mixed blessing.” He’s pleased that punitive aspects of the previous arrangement have been struck down, but even though all doctors will be free to practise where they want, they are “still showing a reluctance to come to BC — much more so than 4 or 5 years ago.” However, Courtice is happy that the BCMA will have a chance to find ways to encourage physicians to practise in underserviced areas.

The BCMA has been negotiating with the government for several months on rural-medicine issues, including payment for on-call work, improved CME opportunities, enhanced locum availability and extra funding for rural training for medical students. Courtice supports financial subsidies for rural training, but admits that convincing the government to provide funding now, when the payoff may be 5 years away, is a challenge.

The 21-year-old Northern Isolation Allowance, which has been the only financial incentive for doctors to move to rural and remote areas, was supplemented with a new emergency medical coverage program for 400 physicians last year; it was introduced following a 5-month labour dispute with rural doctors and costs $8.7 million annually.

Garry Curtis of the Medical Services Commission feels “quite positive” about the ruling because “it gives us some tools that we didn’t have before.” The court upheld the province’s legislative authority to “grandfather” established physicians and create different payment arrangements for new ones. “This is quite different, because with any scheme you introduce you would want to phase it in,” said Curtis. “The lower court decision prevented us from phasing in any kind of new measure.” — Heather Kent, Vancouver

New breast-feeding management guidelines

Because up to 50% of infants are weaned from the breast within 14 days of birth, physicians working in maternal health may be interested in new Evidence-based guidelines for breastfeeding management during the first 14 days, produced by the International Lactation Consultant Association. Guidelines in the booklet are based on the best available research, with the evidence for each standard ranked. Each of the 24 management strategies, which cover everything from facilitating early breast-feeding to contraception, include rationales and evidence. To obtain the publication, call 919 787-5181; ilca@erols.com. The Web site address is www.ilca.org.

New approach to dyspepsia

An evidence-based approach to the diagnosis and management of dyspepsia has been developed by a team of Canadian FPs, gastroenterologists and pharmacists. The new clinical management tool designed by the Canadian Dyspepsia Working Group (CanDys) divides management of the problem into 5 main decision points. “By systematically addressing each of these components physicians can work through the tool in an orderly fashion so that they end up being able to manage a patient’s symptoms with confidence,” explains CanDys member Dr. Nigel Flook of the University of Alberta. Dyspepsia affects 30% of Canadian adults.
This month in medicine: ether day

One hundred-and-fifty-three years ago this month, an historic operation took place in the amphitheater of the Massachusetts General Hospital. The surgeon in question was John Warren and the patient was a young man named Gilbert Abbott. On that fate-ful Friday morning of Oct. 16, 1846, William Thomas Green Morton administered ether to the young man, who was undergoing neck surgery.

Although ether eased patients’ pain and forever changed the face of surgery, its introduction also involved a battle of claims and counterclaims. For William Morton, the controversy began after he watched a public demonstration by Horace Wells in 1845. Wells administered nitrous oxide to a patient who was having a tooth pulled. Unfortunately, the patient screamed, perhaps due to incomplete anesthesia. The demonstration was a failure, but it left a very definite impression on Morton (1819–68), Wells’ former pupil.

Morton appreciated nitrous oxide’s potential as a surgical tool, but sought a more powerful vapour. At the suggestion of Charles Jackson, he proceeded to use ether. Encouraged by a painless tooth extraction, Morton then approached Warren and asked for permission to use ether during a surgical operation.

Morton appeared a few minutes late for surgery on that long-ago Friday morning. He applied his apparatus to the mouth of the patient for about 3 minutes. Warren made a 3-inch incision and waited for the scream that always accompanied surgery. None came. Warren then proceeded with his work, and although the patient uttered incoherent words, he felt no pain. Warren’s remark following the surgery became famous: “Gentlemen, this is no humbug.” Thus, a new era in surgery was born.

The report of the tooth extraction, with Morton administering the ether, appeared in 1846. Although Crawford Long had first used ether as an anesthetic in 1842 during the removal of a neck lesion, he failed to publish his results until 1849. Apparently, the rush to publish wasn’t what it is today.

The pioneers who made medical history because of ether experienced terrible personal tragedies. Long, whose contribution went unrecognized for years, died of a massive stroke. Wells committed suicide, while Jackson was institutionalized for the last 7 years of his life. Morton died of a cerebral hemorrhage. — Dr. Venita Jay, Toronto

BC embraces less-invasive breast biopsy system

About 50% fewer core breast biopsies will be performed surgically in BC this year than in previous years thanks to a new MIBB (minimally invasive breast biopsy) system. The main goal is to carry out biopsies earlier, faster and less expensively. The $330,000 machine at the British Columbia Cancer Agency (BCCA), which was bought with donations and funding from the Ministry of Health, has been used to obtain specimens from about 54 women since it was installed in April. Similar machines are in use in Ontario and Quebec, but have been used on fewer patients.

The MIBB system has several advantages over older stereotactic biopsy equipment. The machine produces high-quality, instantaneous, digital images that show calcifications that could not be seen before. The procedure takes only 30 minutes and results are generally available to referring doctors within 2 days, says Dr. Patricia Hassell, a radiologist at the BCCA. She is trying to treat patients within a week of referral, but current demand is doubling that time. The procedure is less invasive and painful than open surgery because the smaller 11-gauge needle needs to be inserted only once instead of several times, and a vacuum system sucks the tissue sample into it. “This allows us much more flexibility in the amount of the lesions that we are able to biopsy,” says Hassell. It also works well in the fatty breast tissue.

About 75% of breast masses can be detected by ultrasonographic screening, says Hassell, so that potentially up to 25% of patients with ductal carcinoma in situ cancers could benefit from the MIBB system. For patients needing definitive surgery for breast cancer, “this machine gets things in motion faster and it gives the surgeon a better idea of what he’s dealing with and how much tissue he has to take out,” says Hassell. The surgeons and pathologists at the BCCA “are very interested and like it very much,” she says. About 1750 BC women are expected to have a breast biopsy this year. — Heather Kent, Vancouver
For the first time, this year’s CMA Physician Resource Questionnaire (PRQ) gathered information about barriers that prevent physicians from attending CME conferences, seminars and courses.

Time appears to be the biggest obstacle, as 59% of males and 57% of female physicians said the increased workload generated by taking time away from practice to attend CME events kept them from going.

Family commitments are a greater barrier to CME for women than for men, with 48% of female physicians reporting this factor as an impediment always or often, compared with 38% of males. This gap is significantly wider for physicians with children under age 18 at home: 74% of female physicians with children at home report that family commitments are always or often a barrier to attending CME, compared with 56% of male physicians. The numbers rise even more — and the gap between males and females persists — for those with children under age 6, with 66% of males and 79% of females reporting that family commitments are always or often a barrier to attending CME. In contrast, only 14% of female physicians and 18% of male physicians with no children at home report that family commitments are a barrier to attendance at CME courses.

Male physicians are more likely to use technology (including CD-ROMs, the Internet and video) to access CME: 43% of females and 57% of males indicated that they use these resources. Of those who use them, female physicians are as likely as male physicians to report the quality as being good to very good (58% for females, 57% for males). The 1999 PRQ was sent to 8000 physicians; it attracted a response rate of 40.5%.

This column was written by Shelley Martin, Physician Survey Analyst with the CMA's Research Directorate. Readers may send potential research topics to Patrick Sullivan (sullip@cma.ca; 613 731-8610 or 800 663-7336, x2126; fax 613 565-2382).

### Pulse

**With CME, time is not on MDs’ side**

The Rapid Analyte Measurement Platform (RAMP), a diagnostic testing device invented by researchers at the University of British Columbia 18 months ago, may be for sale by 2001. The desk-phone sized device completes immunoassays in 5 minutes.

Created by UBC researchers Dana Devine and Don Brooks (see CMAJ 1998;158:1259), RAMP will be manufactured by Vancouver’s Response Biomedical Corporation.

During the past decade, many companies have tried to develop this technology but failed because they could not obtain reproducible, quantitative results, explains corporation President William Radvak. The goal of point-of-care diagnostic tests is to achieve a coefficient of variation (CV) of less than 15%, says Radvak. RAMP’s CV is between 5% and 9%; laboratories achieve 3% to 8%.

Tests are quick and simple to perform on the RAMP unit. The patient’s identification number is entered on a keypad, then the sample — a few drops of blood, urine or saliva — is placed in a well on an assay cartridge, which is inserted into the unit. Inside the cartridge, antibodies coating a membrane strip bind to the sample, which passes through a “detection zone” where a “sandwich” is created. The sandwich assay consists of the test particle and...
New video aims to solve “the puzzle of menopause”

A new video is now available that aims to educate women and their doctors about perimenopause and dispel some prevalent misconceptions about it. Dr. Jerilynn Prior, a professor of endocrinology at the University of British Columbia who produced the video, wants to “turn on its head” the notion that estrogen levels drop in perimenopausal women. She says the opposite is true, with estrogen levels rising up to 30% in women before menopause.

“This misconception that physicians have is what makes it tough for women,” said Prior. “For years, women have been asking questions about midlife that their doctors couldn’t answer. I’ve been trying for at least 5 years to teach doctors about this change.”

Prior said hormonal changes can start to occur up to 15 years before menopause, beginning as early as the late 30s for some women. She thinks active follicle-stimulating hormones cause the ovaries to go into “overdrive” during perimenopause, resulting in fluctuations in progesterone and estrogen.

The video comes with a diary that women can use to track their signs and symptoms. They are then encouraged to share the diary with their doctors to distinguish signs and symptoms due to estrogen from those related to progesterone. This will result in a more informed discussion about the most appropriate estrogen/progesterone dosage required for treatment of the symptoms over the menstrual cycle. Prior would like to see more perimenopausal women visiting family doctors instead of specialists. In the video, she discusses perimenopause with 4 women and explains how to use the diary. Information recorded in it includes details about menstrual cycles, breast tenderness, fluid retention, hot flashes and psychological changes such as mood swings and loss of interest in sex.

The Puzzle of Menopause video is available for $35 from the BC Endocrine Research Foundation, 380 – 575 West 8th Ave., Vancouver BC V5Z 1C6; 604 875 5922. Tax receipts will be issued.

Don’t be late, vaccinate

Complacency and misinformation about vaccine safety is threatening the vaccination rate of Canadian children, the Canadian Public Health Association warns. The CPHA, along with Health Canada, the CMA and 8 other national organizations, is sponsoring National Immunization Week from Oct. 25–29.

“Because we don’t see many of these diseases we forget how devastating they can be,” said Mary Appleton of the Canadian Immunization Awareness Program. Complacency about the need to keep vaccinations up to date leaves many children unprotected. “We run the risk of epidemics,” she says. “Just 1 infected visitor could send thousands of unprotected children to hospital.” Public health crises due to low immunization rates are already a reality. England experienced a pertussis epidemic between 1977 and 1979, when immunization rates fell to 25%. During that time 100 000 unprotected people became ill, and 100 died. Physicians can direct parents seeking more information about vaccinations to www.ciap.cpha.ca.

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Potential for 250 tests

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an internal standard particle, which are labelled with different fluorescent dyes. The RAMP reader measures fluorescence intensity at 2 different points, and the ratio of the test values to internal standard values is then determined to obtain the analyte concentration. This internal checkpoint cancels out any inherent variabilities in retesting, such as ambient temperature. After about 5 minutes, the results are displayed digitally on the unit; they can be downloaded to a printer. The goal is to keep the unit, which weighs about 4 kg, “very user friendly and portable” says Radvak.

RAMP may eventually perform about 250 different tests. Response Biomedical plans to market 12 tests over the next 5 years, including cardiac marker, myoglobin and hepatitis B tests. Pilot manufacturing will begin at the end of 1999, followed by clinical trials in Vancouver hospital laboratories and 2 US locations. The company hopes to receive approval from the US Food and Drug Administration in the fall of 2000 and then begin full-scale manufacturing. Health Canada approval will be sought once the manufactured product is in hand. The unit will likely cost about $1000, with each test costing between $15–$30. — Heather Kent, Vancouver
A breakthrough in genetic research may eventually help significant numbers of people with cardiovascular disease. Canadian researchers have discovered that mutations in a single gene — \textit{ABC1} — are responsible for familial high-density lipoprotein (HDL) deficiency and the rare Tangier disease (\textit{Nat Genet} 1999;22:336-45). This research could lead to drug treatments to increase HDL-C levels in the half of all patients with coronary artery disease who have decreased amounts of HDL-C. Contrary to popular belief, low levels of "good" cholesterol, HDL-C, and not high levels of "bad" cholesterol, low-density-lipoprotein (LDL)-C, are the most common abnormality in patients with cardiac disease.

"Our new findings put Canada in the lead in the race to find new ways of increasing HDL-C levels and eventually to develop treatments that will help prevent coronary artery disease," said Dr. Michael Hayden, scientific director of the Centre for Molecular Medicine and Therapeutics in Vancouver, who led the study. Xenon Bioresearch Inc., a Vancouver biotechnology company, also collaborated in the research study.

The scientists studied families from Quebec and The Netherlands with early-onset, severe heart disease. The gene mutations were discovered through cholesterol and DNA measurements from blood samples. Faulty \textit{ABC1} genes are linked to defects in cholesterol transfer from body tissue to HDL molecules that normally transport cholesterol to the liver. The researchers now hope to investigate the reasons that this transport fails and to develop compounds to bring HDL-C levels to normal.

"The gene provides us with a doorway into understanding the entire pathway," said Frank Holler, president of Xenon Bioresearch. "This discovery is a significant breakthrough, which we hope to incorporate very quickly into developing novel treatments for cardiovascular disease." The search for potential treatments has already begun, with thousands of compounds being screened to see which ones are effective in elevating HDL-C gene levels.

— Heather Kent, Vancouver

\textbf{Research Update}

\textbf{Finding the gene that regulates HDL cholesterol}

Over the years, the office’s initiatives have resulted in what is arguably the most progressive program at a Canadian medical school. The office’s initiatives include a sexual harassment policy, mentoring, flexible part-time work arrangements, proportional representation on all faculty committees, an informal conflict-resolution system and parental leave. In addition, each of the 14 departments has established its own gender equity committee. An advisory committee with 30 members, including the departmental representatives, helps guide the office’s policies. In making the presentation, Dr. Barbara Lent, chair of COFM’s Gender Issues Committee, also announced that the award would be named in honour of Dr. May Cohen, a longtime gender equity advocate and past chair of the CMA’s Gender Equity Committee. Cohen helped establish the COFM committee and “has been involved in almost every project in Ontario and across Canada in the last 10 or 15 years,” said Lent. — Barbara Sibbald, CMAJ

\textbf{Former Ottawa dean receives gender equity award}

Dr. John Seely received the first-ever May Cohen Gender Equity Award from the Council of Ontario Faculties of Medicine (COFM) in mid-September. The former dean of medicine at the University of Ottawa set a number of precedents in faculty-related gender equity beginning in 1993, when he appointed Dr. Yvonne Lefebvre as Canada’s first assistant dean, gender issues. “He made gender equity important in the faculty,” says Lefebvre, now vice-dean, research, and vice-president, academic and research, at the Ottawa Hospital.

Seely also helped establish the university’s Office of Gender and Equity Issues in 1997 under the direction of Dr. Rose Goldstein. “My role was very small,” Seely said when he accepted the unique knit-picture award. “It is an important step to recognize gender issues in this way.”

Dr. John Seely accepts gender equity award from Dr. Barbara Lent as Dr. Yvonne Lefebvre looks on

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