Naimark Report commissioned by the hospital and its documentary base. We also had access to key Apotex and hospital documents not available to the Naimark Review. We therefore believe we had a comprehensive set, from both sides, of relevant information regarding all players in the dispute. The central conclusions of our report were independently corroborated by the Dec. 19, 2001, report issued by the College of Physicians and Surgeons of Ontario,[5] who had the participation of some of those very individuals who declined to participate in our inquiry.

We would encourage your readers to read our report, along with the supplement discussing events since October 2001; both can be accessed at www.dal.ca/committeeofinquiry. Contrary to the suggestion in your editorial, the rights of "the study subject who volunteers in research" are judged to be a centrally important issue in our report; indeed, they drive the wide-ranging recommendations that we hope will be taken up by all of those responsible for the well-being of research participants in Canada.

Patricia Baird
Professor, Department of Medical Genetics
University Distinguished Professor
University of British Columbia
Vancouver, BC
Jon Thompson
Professor and Chair
Department of Mathematics and Statistics
University of New Brunswick
Fredericton, NB
Jocelyn Downie
Associate Professor
Faculties of Law and Medicine
Dalhousie University
Halifax, NS

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Alzheimer's disease and herpes

Herpes simplex virus type 1 (HSV1) is present in latent form in the brains of a high proportion of elderly people[1] and is a risk factor for Alzheimer's disease in carriers of the type-4 allele of the apolipoprotein E gene (apoE-e4). ApoE-e4 is also a risk factor for cold sores.[2,3] We have suggested that when HSV1 is reactivated in the nervous system the resulting damage is greater in apoE-e4 carriers than in people who carry the other apoE alleles. We recently detected antibodies to HSV1 in cerebrospinal fluid, substantiating our detection of HSV1 by polymerase chain reaction and showing that it does indeed reactivate (unpublished data). A clinical trial testing a synthetic amyloid peptide as immunotherapy for Alzheimer's disease was recently halted because 4 patients developed inflammation of the brain; in "some" of these 4 patients, a virus was detected in the cerebrospinal fluid.[4]

The results of René Verreault and colleagues[5] raise the intriguing possibility that viruses other than HSV1 may directly influence Alzheimer's disease. Nonetheless, their findings could equally well be explained by an indirect effect: HSV1 reactivation can be triggered by inflammation, and vaccines would presumably prevent inflammation by preventing infection with the target virus, thus indirectly preventing HSV1 reactivation. Their study also supports the possibility that vaccination against HSV1 itself might prevent Alzheimer's disease; such vaccination is feasible now that the age at which primary infection occurs is rising. In fact, we have shown that vaccination of HSV1-infected mice with mixed HSV1 glycoproteins prevents establishment of latency in the brain.[6]

Finally, it would be interesting to know if the trend detected by Verreault and colleagues is dependent on the apoE-genotype. Such dependence has also been found for patients with herpes simplex encephalitis[7] and for subjects infected with HIV but who have not yet developed AIDS.[8]

Ruth F. Itzhaki
Curtis B. Dobson
Molecular Neurobiology Laboratory
Department of Optometry and Neuroscience
University of Manchester Institute of Science and Technology
Manchester, UK

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Spinal manipulation versus mobilization

The commentary by Edzard Ernst[1] alerts health professionals to the possible complications of cervical manipulation. However, we feel that the commentary would have been even more clinically relevant if it had emphasized to physicians the distinction between spinal manipulation techniques and mobilization techniques. Manipulation is defined as a small-amplitude, high-velocity thrust tech-

nique — a rapid movement over which the patient has no control. Mobilizations are low-velocity techniques that can be performed in various parts of the available range based on the desired effect. Mobilization techniques have been shown to produce concurrent effects on pain, sympathetic nervous system activity, and motor activity.[2-4] Mobilizations can be prevented by the patient[5] and are generally considered far safer than manipulations. The majority of physiotherapists in Canada use mobilization techniques on the spine, as opposed to manipulation, while many have trained in both and are able to select the most appropriate technique for the patient's problem. It would be a shame if physicians eschewed this technique by misrepresenting Ernst's excellent commentary.

Meena Sran
Osteoporosis Program
Children's and Women's Health Centre of British Columbia
University of British Columbia
Vancouver, BC
Karim Khan
Department of Family Practice
University of British Columbia
Vancouver, BC

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[The author responds:]

The comments by Meena Sran and Karim Khan offer an important clarification. The risks of mobilization seems indeed to be much smaller than those of spinal manipulation, though truly convincing data are not presently available. I was interested to learn that many Canadian physiotherapists have training in both methods and "select the most appropriate technique for the patient's problem." This begs the question of how the most appropriate technique is determined. A recent analysis[1] of 64 previously unpublished cases of complications after upper spinal manipulations demonstrated that no factors are identifiable from the clinical history or physical examination of the patients that would help isolate patients at risk. Essentially, this means everyone is at risk. Spinal manipulation is undoubtedly the mainstay of chiropractors, and it is not surprising that the vast majority of complications happen in the hands of chiropractors.[2] In my personal experience, physiotherapists in Europe use spinal manipulation less frequently and with more discrimination than chiropractors in Canada.

Edzard Ernst
Department of Complementary Medicine
School of Sport and Health Sciences
University of Exeter
Exeter, UK

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Clinical practice guidelines: breast cancer pain

It is disturbing to read the 2001 update of the clinical practice guideline on the management of chronic pain in patients with breast cancer as summarized in *CMAJ* by Chris Emery and colleagues.[1] In the full text of these guidelines the authors state that bone pain from vertebral metastases is very common; however, there is absolutely no mention of surgical stabilization techniques despite the fact that they are an effective evidence-based option for treating mechanical axial skeletal pain due to bone metastases.

Among their descriptions of treatment options the authors are careful to include descriptions of complementary techniques with little or no evidence for their effectiveness, including neurosurgical ablative procedures such as rhizotomy and cordotomy, and psychotherapy. They fail to mention the excellent outcomes seen with surgical stabilization of pathological vertebral fractures and impending fractures. They even state that "except for spinal cord compression, neurosurgical interventions are rarely required in the management of cancer pain." There is now a large body of literature that supports the surgical decompression and stabilization of spinal metastases as effective palliation of mechanical pain (not only for metastatic epidural spinal cord compression) with acceptable levels of morbidity.[2–5] In fact, surgery followed by radiation appears to be more effective than radiation alone in improving local pain control and survival and reducing postoperative morbidity.[2–6]

No longer is it acceptable practice to deny surgical stabilization to appropriate patients with vertebral metastases. At the Combined Neurosurgical and Orthopaedic Spine Program at Vancouver General Hospital we have reported favourable outcomes in these surgically treated patients; we continue to follow their outcomes prospectively and are perfoming an economic evaluation of surgical treatment in these patients. It is a pity that the guidelines published by Emery and colleagues continue to perpetuate the lack of appropriate referral and access to effective spinal surgical care for this often inadequately palliated patient population.

Marcel Dvorak
Charles G. Fisher
Combined Neurosurgical and Orthopaedic Spine Program
Vancouver General Hospital
Vancouver, BC

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