Who delivered Fredericton's babies?

As a Fredericton pediatrician, I join MP Andy Scott in recognizing my longtime colleague, the late Bob Chalmers.[1] However, Dr. Bob was not "for over 10 years … the only gynecologist in the city." Anna Loane, after practising obstetrics and gynecology at Women's College Hospital in Toronto for 3 years, opened her office in Fredericton in November 1951 and practised her specialty until her retirement in 1985. At the time Loane started practising here, Dr. Bob had left his general practice to do postgraduate training, returning in 1952 to open his practice in obstetrics and gynecology.

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Medical students not mum on Iraq

Brad Mackay reports in *CMAJ* News on the muted response of Canadian physicians to the humanitarian catastrophe in Iraq.[1] However, "mum" hardly describes the activity that took place on Canadian medical school campuses, starting months before the US-led attack on Iraq began.

Medical students participated in and led rallies, vigils and discussions of the health consequences of the war in Iraq and have been a significant component of the unprecedented public opposition to this military intervention. Medical students across Canada initiated a petition voicing opposition to the detrimental health consequences of war in Iraq. This petition eventually reached every medical school in Canada and garnered over 650 signatories.[2]

Many Canadian physicians understandably feel ill-equipped to address the health consequences of war. That is why we are encouraging medical schools to incorporate education about human rights and the health effects of war into medical undergraduate curricula. That is also why organizations like Physicians for Global Survival are so crucial in helping governments to reframe political, economic and military decisions in terms of projected health outcomes.

We continue to endeavour to use medicine as an avenue for peace, and we invite organizations such as the CMA to assess the health consequences of the war in Iraq and to take the position they deem appropriate, as would be done for any other health crisis.

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SARS respiratory protection

Since preparation of my letter on respiratory protection against severe acute respiratory syndrome (SARS) for health care workers,[1] an additional important study has appeared. Ofner and associates[2] have reported on 9 of 11 health care workers in whom SARS developed even though they were following the infection-control precautions recommended in Canada at the time,[3] including use of an N95 respirator. However, the N95 respirator in use was a duckbill mask (PCM2000, Kimberly Clark Health Care, Roswell, Ga.), which is not approved by the US National Institute for Occupational Safety and Health (NIOSH).[2] The use of N95 respirators, a recommendation adopted from tuberculosis (TB) protection guidelines, has been suggested by the US Centers for Disease Control and Prevention (CDC) for protection against SARS, although the CDC recommends that only NIOSH-approved respirators be used.[4] Of note, TB bacteria are much larger than the SARS virus, which indicates that a higher-efficiency respirator would be required for adequate protection against the virus.

Ofner and associates[2] reported that the health care workers in their study were not fit-tested, and at least one of the workers had a beard. In my earlier letter,[1] I suggested N100 respirators with ultra-low penetrating filters for the best protection. The respirator should also be elastomeric to allow a good fit on the face; notably, N100 elastomeric respirators can be cleaned and reused. Before a health-care worker uses a respirator, he or she should receive appropriate training, must be properly fit-tested, and should undergo a medical surveillance examination; these activities should be repeated yearly. In a previous study of asbestos workers,[5] I reported that many do not use their respirators properly, despite training. Thus, providing N100 respirators will be insufficient to prevent infection if health care workers use them improperly or compliance is less than 100%.

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Low-calcium diet

Elizabeth Sellers and associates[1] write about the adaptation of Inuit children to a low-calcium diet. Contemporary humans evolved in an equatorial environment, and there can be little doubt that populations living under radically different conditions have had to adapt in substantial ways. Nevertheless, 3 important errors in this article need clarification if we are to gain any insight into the character of the adaptation, at least with respect to calcium.

First, the magnitude of urinary calcium excretion, expressed in this paper as fractional micromoles per mole creatinine, is incorrect by 6 orders of magnitude. As reported by Sellers and associates,[1] the urine of these children would have contained less calcium than distilled water. This might be taken as an indication of the adaptation the authors are seeking to define, except that the values reported are considered either at or above age-specific normal values in all of the 10 children studied. Therefore, the units for this test result are incorrect.

Second, the authors seem to have misinterpreted the data from the reference by Kuhnlein and colleagues[2] when they state "With a traditional diet, Inuit children in northern Canada ingest only 20 mg of elemental calcium per day." In the article concerned, traditional foods, providing 21 mg calcium daily (not the 20 mg cited), constituted only 17% of the total energy intake of the Inuit children studied. Had total energy intake come from traditional foods, total calcium intake would have been at least 120 mg/day. That is still not very much, but it is not safe to extrapolate from such a small proportion of the diet, since deriving total energy from traditional foods might well have involved a change in food types. This is strongly suggested by the standard deviation around the 21-mg average reported by Kuhnlein and colleagues,[2] which was 400 mg. Thus, the intake data were severely skewed to the right, indicating that some of the children must have been getting 1000 mg calcium or more from traditional foods. Given these uncertainties, the article by Kuhnlein and colleagues[2] provides no useful information about the calcium content of diets based completely on traditional foods.

The third error relates to the uncritical assumption that any adaptation at all would suffice to build an adult skeleton with a daily intake as low as the 20-mg figure mentioned by Sellers and associates.[1] If all 20 mg could be absorbed and retained, and if dermal and excretory losses could be reduced to zero (both impossible conditions), total skeletal accumulation from birth to age 16 would produce a skeleton containing less than 120 g calcium. Thus, the premise that adaptation must be possible for such an intake is untenable. Whatever the basis for the error, the authors should have realized than any intake estimate as low as the one cited had to be incorrect.

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[The authors respond:]

Our hospital laboratory customarily reports all concentration ratios with the same units for both numerator and denominator (i.e., moles per mole [mol/mol] or micromoles per micromole [µmol/µmol]), and this was the case for both the results and the normative data for our study.[1] However, as Robert Heaney rightly points out, these values were inadvertently mislabelled and reported with units of micromoles per mole. Nonetheless, because the numbers for both the reported results and the reference values are correct (with units of moles per mole), neither the results, their interpretation nor our conclusions are affected by this error.

The study by Kuhnlein and colleagues[2] does indeed report 21 (standard deviation 400) mg as the calcium intake derived from the traditional portion of a mixed diet. During manuscript revision, this figure was accidentally substituted for the estimated total daily calcium intake, which by extrapolation to a fully traditional diet is on the order of 123 mg/day; this remains profoundly low compared with the recommended daily intake of 900 mg. In any case, as Heaney notes, the reported standard deviation precludes placing too great an emphasis on the precise numeric value. Hence, neither 20 mg nor 120 mg should be regarded as more than a round number illustrating the magnitude of the discrepancy, and neither the results nor the conclusions inferred from them are materially affected by reference to the extrapolated value. Moreover, given this uncertainty and the absence of any reports of bone mineral density for a population using a traditional diet alone, it may be premature to speculate as to the sufficiency of bone mineralization under these circumstances. Further studies in this area are clearly warranted.

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