support the contention of Sebastian Padayatty and Mark Levine that subclinical vitamin C deficiency is more common than is generally recognized.[3] An inverse association has been reported between plasma vitamin C concentration and glycosylated hemoglobin,[4] suggesting that measures to increase plasma vitamin C levels may help to reduce the prevalence of diabetes. A colleague and I reported that 1500 mg of vitamin C, when given orally, reduces plasma glucose levels in patients with type 2 diabetes.[5]

Other studies have suggested that vitamin C reduces blood pressure.[6,7] It may augment prostaglandin F and nitric oxide synthesis,[8,9] which could account for its beneficial actions in diabetes and hypertension. The interactions of vitamin C with eicosanoids, nitric oxide, platelets, leukocytes and endothelial cells, among other types of molecules and cells, may account for some of its hitherto-unexplained beneficial actions. As suggested by Padayatty and Levine, more studies should be conducted on vitamin C's actions in various tissues, including cancerous ones.[3] Until further studies are completed, however, caution should be exercised in advocating its use as an anticancer compound.

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[The authors respond:]

There is no doubt that vitamin C is a powerful antioxidant in vitro. It is less certain that vitamin C has antioxidant actions at physiologic concentrations in vivo.

Smokers and people with diabetes often have an unhealthy lifestyle, including a low intake of fruits and vegetables; this could partly account for the low plasma vitamin C concentrations in these groups. The low vitamin C levels could also be due to low bioavailability, increased utilization or even laboratory artifacts owing to oxidation of vitamin C during sample processing. Many apparently healthy people also have low plasma, and probably tissue, vitamin C concentrations.

In addition to its antioxidant effect, Vitamin C has been demonstrated to have many favourable actions in vitro and under experimental conditions in vivo. However, it is uncertain whether plasma concentrations of vitamin C higher than that necessary to prevent scurvy have any clinical benefit, except to serve as reservoir to forestall scurvy. Some studies have shown an association between increased vitamin C concentrations and a beneficial clinical outcome.[1] However, most of these studies do not distinguish whether the beneficial effect is due to vitamin C or something else, such as other components of fruits and vegetables or lifestyle factors. When pure vitamin C is administered, benefits are hard to demonstrate. For example, small short-term studies have shown a reduction in systolic blood pressure with vitamin C treatment[2] but the findings of larger studies are inconsistent.[3,4]

Despite intense public interest in vitamin C, widespread use of this vitamin and decades of experimental studies, its role in health and disease remains unclear. We believe that one path to clarity is to determine the effects of vitamin C on targeted clinical outcomes in healthy people as well as in people with pro-oxidant states, such as smokers and patients with diabetes; the effects must be determined in relationship to the concentration of the vitamin. As in vitro studies and surrogate markers alone cannot predict a clinical outcome, practising physicians will expect us to show clear clinical benefit before they use vitamin C for prevention or treatment purposes.[5]

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The abortion issue

Having read the well-written article by Laura Eggertson,[1] I feel that her thrust (and that of Planned Parenthood, the Canadian Abortion Rights Action League, Health Minister Allan Rock, etc.) is that it is a scandal and surprise that a "medically necessary" operation — abortion — is not universally accepted like other procedures.

You do not hear most of the old debating arguments about abortion any more, but the one that will not go away

concerns whether abortion is a medically necessary operation.

What happens, by and large, if a woman who has an unwanted pregnancy is denied an abortion? Her attitude changes dramatically from disappointment, perhaps desperation, to acceptance and often to love. It is no wonder many people question the provision of abortion on demand or without good medical reasons, and that others question it for moral reasons.

Abortion is both a moral and a medical issue, and we should not be surprised if people do not regard it as a necessary procedure in the same way they view other operations.

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1. Eggertson L. Abortion services in Canada: a patchwork quilt with many holes. *CMAJ* 2001;164(6):847-9.

Your homey analogy of abortion as a patchwork quilt — a warm, comforting and maternal object if ever there was one — furthers the dishonourable tradition of euphemizing the medicalized killing of small human beings.[1] Most appealing, this is a quilt with holes — patching, perhaps before the fire with a kettle on for tea, is needed. Not easily would the reader suspect that an oppressive abortion-rights orthodoxy, with a paranoid determination to avoid straight talk about what abortion really is, seeks to stifle even the few pathetic remnants of resistance to this national tragedy.

CMA members remain deeply divided on these issues. An even-handed editorial and reporting style would show respect for this diversity of opinion.

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No more eyeball jugglers, please

The art on the cover of the April 17, 2001, issue of *CMAJ* is distasteful. A collage purports to show a white man in a doctor's jacket juggling eyeballs and clocks. This is supposed to refer to an article concerning the Manitoba Cataract Waiting List Program.[1] This article does not mention anything about the technical aspects of cataract surgery. As far as I know, cataract surgery does not involve enucleation of the eye.

Rather than simple "art" showing dismembered body parts, I would prefer photographs of Canadian nature scenes, or a white cover with the table