Mohamed Y. Rady
Department of Critical Care Medicine
Joseph L. Verheijde
Department of Physical Medicine and Rehabilitation
Mayo Clinic Hospital
Phoenix, Ariz.
Joan McGregor
Bioethics, Policy and Law Program
School of Life Sciences and
Department of Philosophy
Arizona State University
Tempe, Ariz.

REFERENCES

[Two of the authors respond:]

We are in agreement with many, but not all, of Ed Helfrich’s points concerning our commentary. First, he acknowledges that there are differences in staffing levels between for-profit and not-for-profit long-term care facilities in British Columbia, something that we and others have found to be true. However, in saying that the prime reason for these differences is the variation in the amount of funding given to different types of facilities that care for similar patients, Helfrich describes the current situation, whereas the study we referred to in our commentary was based on data from the mid to late 1990s, before the complex-care patient designation was introduced. Variation in current funding levels cannot be the reason for the differences in quality of care found in that study.

Second, Helfrich argues that the better performance of facilities operated by health authorities must be driven by those facilities’ access to additional staff. This is precisely the point of our commentary. Surely it is quite feasible that different forms of ownership imply different types of access to resources; the important question is whether those resources make a difference. Do multisite not-for-profit facilities do better than single-site facilities because they can share the costs of developing policies and care practices? Or is it because they can share the costs of specialized staff, such as nurse geriatri-
Thyroid hormone therapy in organ donors

Sam Shemie and associates recommend that consideration be given to using thyroid hormone therapy in all organ donors.1 We have experimental data suggesting that administering thyroid hormones to hemodynamically stable organ donors could decrease the success of liver transplants.

In a model of ischemia–reperfusion (warm ischemia) in rats, we showed that pretreatment with thyroxine negatively affects the energetic status of the liver by reducing the preischemic and postreperfusion concentrations of adenosine triphosphate in the liver.2 We also observed that pretreatment with thyroxine reduces the liver tissue concentration of reduced glutathione, an intracellular antioxidant, and increases the susceptibility of isolated rat hepatocytes to anoxia and oxidative stress.3,4 Castilho and associates reported that 3,5,3’-triiodothyronine induces oxidative stress in isolated liver mitochondria, which leads to membrane thiol oxidation and inner membrane permeabilization.4 This process is known as the mitochondrial permeability transition and is characterized by swelling and depolarization of the mitochondria, resulting in an inability to produce adenosine triphosphate.4 There is evidence that hypothyroidism has generalized protective effects against anoxic ischemia and reperfusion injury, conditions that occur during organ storage and transplantation. In the rat, hypothyroidism reduces liver necrosis associated with cold storage, improves liver function and increases the concentration of reduced glutathione in the liver during reperfusion after cold storage.2,3 It also protects rat kidneys from ischemia.3

Although these experimental data were obtained in animals and cannot be directly applied to the clinical setting, they suggest that we should consider the possibility that administration of thyroid hormones might damage human liver tissue during organ harvesting, cold storage and transplantation and therefore should not be administered to all organ donors. It is also worth considering the possibility that pharmacological hypothyroidism might protect the organs of hemodynamically stable donors during cold storage and reperfusion.

Roberto Imberti
Department of Anesthesiology and
Critical Care Medicine
Fondazione Istituto di Ricovero e Cura a Carattere Scientifico
Policlinico San Matteo
Marapia Vairetti
Department of Internal Medicine and Therapeutics
Sezione di Farmacologia e Tossicologia Cellulare e Molecolare
University of Pavia
Pavia, Italy

REFERENCES

LETTERS
Letters submission process
CMAJ’s enhanced letters feature is now the portal for all submissions to our letters column. To prepare a letter, visit www.cmaj.ca and click “Submit a response to this article” in the box near the top right-hand corner of any CMAJ article. All letters will be considered for publication in the print journal. Letters written in response to an article published in CMAJ are more likely to be accepted for print publication if they are submitted within 2 months of the article’s publication date. Letters accepted for print publication are edited for length (usually 250 words) and house style.