Debating the criteria for brain death

In reading the article by Neil Lazar and colleagues on brain death,[1] I was reminded of a statement that Paul Byrne and colleagues made 18 years ago concerning the claims made by advocates of brain death criteria: "Stylized and highly repetitive, they rarely show freshness of expression or other evidence of personal rethinking or assimilation. The mere multiplication of such assertions does nothing to strengthen the position they indicate."[2] Lazar and colleagues rehash 2 claims of the 1981 US President's Commission report[3]: brain death implies a notion of irreversibly lost personhood and whole brain death implies that those brain functions necessary for the integrated functioning of the person are irreversibly lost.

I sympathize with the view that personhood is lost when the integrated unity of the human organism is lost; a number of philosophers have made a good case for this view.[4,5] The second claim is the one that has clearly become problematic since the President's Commission report was published. Machine dependence does not imply the loss of integrated organic unity. A number of people who are clearly alive (and even conscious) depend on machines ranging from cardiac pacemakers to ventilators in order to live. In addition, there have been a number of cases of long-term survival of brain-dead patients. Lazar and colleagues themselves refer to cases of brain-dead pregnant women who have given birth to healthy infants. Even more remarkable are Alan Shewmon's reports of long-term survival of brain-dead children.[6,7] Brain-dead patients have functioning circulatory and respiratory systems (with respiration being defined in terms of gas exchange and energy production at the cellular level). If life is defined in terms of the integrated functioning of a person, then brain-dead patients, whether they be declared whole brain or higher brain dead, are functioning integrated organisms and are thus living human people. If that is the case, the removal of unpaired vital organs from a beating-heart brain-dead patient means killing a living human person.

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References

1. Lazar NM, Shernie S, Webster GC, Dickens BM. Bioethics for clinicians: 24. Brain death. *CMAJ* 2001;164(6):833-6.
2. Byrne PA, O'Reilly S, Quay PM, Salsich PW. Brain death: the patient, the physician, and society. *Gonzaga Law Rev* 1983;18:429-516.
3. President's Commission for the Study of Ethical Problems in Medicine and Biomedical and Behavioral Research. *Defining death: a report on the medical, legal, and ethical issues in the determination of death*. Washington: The Commission; 1981.
4. Jones DA. Metaphysical misgivings about brain death. In: Potts M, Byrne PA, Nilges RG, editors. *Beyond brain death: the case against brain based criteria for human death*. Dordrecht: Kluwer Academic Publishers; 2000. p. 92-119.
5. Moreland JP, Rae SB. *Body and soul: human nature and the crisis in ethics*. Downers Grove (IL): Intervarsity Press; 2000.
6. Shewmon DA. Brainstem death, brain death and death: a critical re-evaluation of the purported evidence. *Issues Law Med* 1998;14:125-45.
7. Shewmon DA. Chronic brain death: meta-analysis and conceptual consequences. *Neurology* 1998;51:1538-45.

The article on the bioethics of brain death by Neil Lazar and colleagues does a superb job of covering the basic issues.[1] However, one important situation that the authors do not discuss concerns the patient with a massive head injury who meets the criteria for brain death imperfectly, perhaps because a small patch of neurons in a brain-stem nucleus are still operating. In real-world clinical practice such patients have zero chance of survival and so are withdrawn from life support, their organs going to waste.

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Reference

1. Lazar NM, Shernie S, Webster GC, Dickens BM. Bioethics for clinicians: 24. Brain death. *CMAJ* 2001;164(6):833-6.

Neil Lazar and colleagues say that "brain death is defined as the complete and irreversible absence of all brain function."[1] Their claim that brain death "is diagnosed by means of rigorous testing at the bedside"[1] has no scientific validity. It is falsified by much evidence to the contrary, some of which can be accessed in *Beyond Brain Death: the Case Against Brain Based Criteria for Human Death*.[2]

The unscientific attitude of the authors is made obvious by their statement that "electroencephalography has proven to be unreliable as a supportive test for brain death."[1] Decoded, this means that they choose to disregard electroencephalographic evidence of persisting life in brains they wish to call "dead."

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References

1. Lazar NM, Shernie S, Webster GC, Dickens BM. Bioethics for clinicians: 24. Brain death. *CMAJ* 2001;164(6):833-6.
2. Potts M, Byrne PA, Nilges RG, editors. *Beyond brain death: the case against brain based criteria for human death*. Dordrecht: Kluwer Academic Publishers; 2000.

Be careful with the term "bone loss"

We congratulate Nicole Fitt and colleagues on their paper on the influence of bone densitometry on the treatment of osteoporosis.[1] We concur with their recommendation that "physicians not merely tell their patients results but that they also facilitate an understanding of the results" and thus we feel obliged to draw attention to inappropriate use of the terms "bone loss" and "no bone loss" in the article.

"Bone loss" implies change over time. As Fitt and colleagues will certainly agree, "bone loss" is not synonymous with "low bone mass," just as

"weight loss" is not synonymous with "thin." Unfortunately, the authors used the term "bone loss" to group subjects classified as having osteopenia or osteoporosis by a single dual-energy x-ray absorptiometry (DXA) scan. Similarly, they equated normal DXA scores with "no bone loss." Thus, they implicitly attributed a change vector to the DXA absorptiometry results.

A patient with osteoporosis or osteopenia is not necessarily losing any more bone than her counterparts with normal bone mass.[2] But if this patient is told she has a DXA score that represents "bone loss" she might very reasonably misinterpret this to mean that the DXA scan reveals a recent trend for bone loss, and this might influence her choice of therapy. Thus, as physicians, we must be very cautious not to use language that may mislead the patient about our technology's ability to interpret the state of their bone mineral metabolism.

Please do not interpret this as a criticism of the excellent work of Fitt and colleagues. We agree entirely that patients and doctors must understand DXA results,[3] as they must the results of any medical investigation,[4] and thus it is important that physicians use accurate terminology when they report results to patients.

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References

1. Fitt NS, Mitchell SL, Cranney A, Gulenchyn K, Huang M, Tugwell P. Influence of bone densitometry results on the treatment of osteoporosis. *CMAJ* 2001;164(6):777-81.
2. Guthrie JR, Ebeling PR, Hopper JL, Barrett-Connor E, Dennerstein L, Dudley EC, et al. A prospective study of bone loss in menopausal Australian-born women. *Osteoporos Int* 1998;8(3):282-90.
3. White C, Pocock N. Bone density and osteoporosis: crunching more than numbers [editorial]. *Aust NZ J Med* 1997;27:519-20.
4. Khan KM, Tress BW, Hare WSC, Wark JD. "Treat the patient, not the X-ray": advances in diagnostic imaging do not replace the need for clinical interpretation [editorial]. *Clin J Sport Med* 1998;8:1-4.

The error of our ways

A recent *CMAJ* article suggested that physicians should disclose errors in medical practice to patients.[1] Notwithstanding the legal decisions discussed in the article, which suggest that the law expects physicians to disclose medical error, it is utter foolishness for a physician to openly state that he has made a significant mistake unless there is a dramatic change in how our society deals with such errors. The provincial colleges still prosecute physicians for making honest mistakes and the litigation climate in Canada is as bad as, or worse than, it ever has been.