

Correspondence

Electronic publishing

To the Editor:

Duffy and Miller¹ raise important issues about scientific publishing via the Internet. As the founder, with Keith J. Ruskin, of the first anaesthesia journal distributed (since April 1994) via the Internet,² I have some comments that may be pertinent. It is the policy of *Educational Synopses in Anesthesiology and Critical Medicine* that all articles go through a peer review process before publication, and that ordinarily only original material be accepted for publication (exceptions may be made, for example, for reprinted historical articles).

In response to Duffy and Miller's questions, I would submit that material made available on a limited basis via E-mail or similar means for critical appraisal does not constitute prior publication, but publication in an Internet journal such as ours with an international editorial board, an ISSN number, and registration with the Library of Congress does. The main difference between our journal and most others is that ours is a journal that exists as electronic bits rather than as bits of paper. Other differences are that our journal is free to all who electronically subscribe, editorial duties are carried out almost entirely by E-mail, and the journal has a "copyleft" policy allowing unrestricted redistribution for educational purposes (in any medium) without special permission.

The medical community is not alone in facing these issues. For example, the Journal of Artificial Intelligence Research (available at <http://www.cs.washington.edu/research/jair/home.html>) is one of a number of peer-reviewed "virtual" journals. Indeed, the Internet itself offers many resources on these topics; see for example, "Intellectual Property and the Internet" at Web address <http://info.lib.uh.edu/pr/v6/nl/copyr.htm> or "Electronic Scholarly Publishing" at address <http://www.deakin.edu.au/people/aet/ausweb95/ausweb95.html>

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- 2 *Educational Synopses in Anesthesiology and Critical Care Medicine* can be downloaded from Web address <http://gasnet.med.yale.edu> or can be obtained by subscription by sending the following e-mail message to listproc@gasnet.med.yale.edu: *subscribe esia your name e.g., subscribe esia joe blow.* (The contents of the subject field doesn't matter).

REPLY

We very much welcome Dr. Doyle's comments. The Internet publication to which he refers, "*Educational Synopses in Anesthesia and Critical Care Medicine*," provides an excellent

example of how new information technology can be successfully applied to anaesthesia education. Furthermore, this type of periodical illustrates how current publishing standards can be applied to electronic publishing, while maintaining academic integrity and circumventing some of the problems associated with publishing on the Internet. Currently, however, "*Educational Synopses in Anesthesia and Critical Care Medicine*" is unique, as the majority of medical information available electronically is neither peer-reviewed nor moderated in any way.

A recent editorial in the "*New England Journal of Medicine*" raises some important concerns that are currently shared amongst print editors.¹ In this editorial, the view is expressed that "electronic publishing of scientific studies threatens to undermine time-tested traditions that help to ensure quality of medical literature." The authors conclude that electronic publishing should not be regarded differently from print distribution, specifically stating that "posting a manuscript... on a host computer to which anyone on the Internet can gain access will constitute prior publication". However, limited distribution of manuscripts by e-mail would not. This view is more encompassing than Dr. Doyle's suggestion. Defining standards is problematic because there is greater variety in electronic publishing methods than with traditional peer-reviewed print. It is precisely the decision-making process of determining where to "draw the line" which will eventually lead to the development of consensus and standards for electronic publication.

In September 1995, the Government of Canada's Information Highway Advisory Council released its final report entitled "*The Challenge of the Information Highway*".² Amongst the many issues addressed was the subject of "*Electronic Publishing of Scholarly Information*." During the review process, the council discovered that despite many potential benefits, "publishers, for sociocultural reasons – peer review, scholarly recognition, security, content standards, indexing and archiving, content filtering and retrieval – are reluctant to adopt new technologies." The council also recognized "parallel print and electronic publishing, distribution and payment" as transition factors to be considered. However, the report urged the Canadian academic community to take appropriate steps to resolve these issues. The following recommendations were made:

- 1 Provide strong incentives to the academic community to facilitate direct electronic dissemination of research results and scholarly productions;
- 2 Initiate pilot projects to help resolve the above issues; and
- 3 Ensure that Canada's large research granting bodies (including the Medical Research Council) adopt policies to encourage electronic dissemination of research results.

The potential benefits of electronic publishing are numerous, and include the easy, low cost, rapid, and widespread distribution of material in a variety of multimedia formats. If the medical community is to remain at the forefront of an evolving information-based society, we must collectively assess these new technologies and determine how best to incorporate them into our professional lives. At the same time, we must also be

mindful of the implications of applying current standards of the peer-review process and publication rights to the Internet.

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- 2 Connection Community Content: The Challenge of the Information Highway. Information Highway Advisory Council. Ottawa: Minister of Supply and Services Canada, September 1995.

MAOIs and anaesthesia

To the Editor:

Patients receiving monoamine oxidase inhibitors (MAOI's) are prone to adverse interactions with other drugs, notably meperidine and indirect acting sympathomimetic agents. Anaesthetic related drugs may also be implicated.

There is no current, comprehensive database upon which to base a decision regarding the discontinuing of MAOI's prior to surgery. In order to create such a database I have sent a questionnaire to all practising anaesthetists in Canada. It is my intention to submit a yearly report to the Canadian Anaesthetists' Society.

I write to increase awareness of the questionnaire amongst Canadian anaesthetists, in order to enlist their help in its completion. I am grateful for the opportunity of so doing. Further copies of the document can be obtained by writing to the address given below.

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Xenon is another laughing gas

To the Editor:

There is concern that inhalation of N₂O may cause teratogenic effects,¹ and spinal cord symptoms.² Xenon does not undergo biotransformation and is non-toxic,¹ and is a more potent anaesthetic agent than N₂O (MAC is 71% in humans.³) As xenon has a smaller blood/gas partition coefficient (0.20) than N₂O (0.47), it provides rapid induction and recovery from anaesthesia.⁴ It is expensive but costs may be minimized by using a minimum fresh gas flow in a closed circle system.⁵

We compared changes in the electroencephalogram (EEG) and electromyogram (EMG) during inhalation of xenon and N₂O. Seven healthy volunteers (male/female = 6/1; age 36 ± 4 yr; weight 61 ± 5 kg), with informed consent and approval by our institute, inhaled each anaesthetic gas in a random order at seven-day intervals. The EEG at frontal, temporal and occipi-

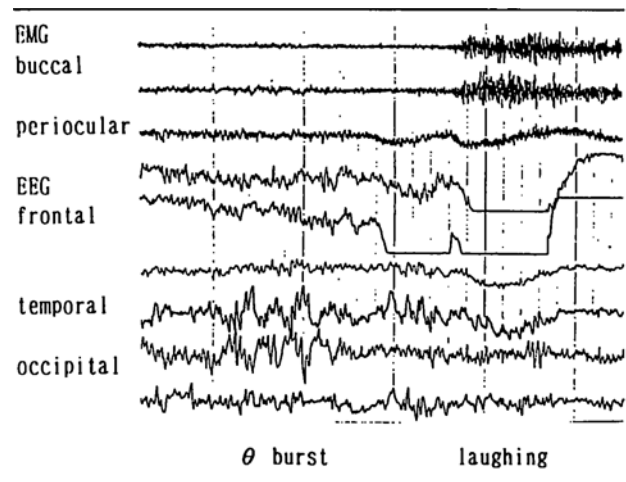


FIGURE The EEG and EMG changes when the subject started laughing during inhalation of xenon at 0.66 MAC (47%).

tal regions and the EMG at periocular and buccal muscles were continuously recorded using a Neuropack Four (Nihon Kohden). Xenon or N₂O in oxygen was administered via face mask by using a minimum fresh gas flow in a closed circle system. The end-tidal concentration of each anaesthetic gas was gradually increased and maintained for each ten minutes at 0.33, 0.5 and 0.66 MAC in turn. End-tidal concentrations of xenon and N₂O were monitored using a thermal conductivity gas monitor (Thermomat, Fuji Electric) and a Capnomac (Datex), respectively.

The EEG changes were similar with xenon and N₂O. The attenuation of α wave and slight decrease in frequency of basic rhythm were observed at 0.33 and 0.5 MACs of xenon and N₂O. Slow α and θ waves were observed at the higher MAC of 0.66 with both anaesthetics. When subjects inhaled xenon or N₂O, the remarkable change was an appearance of laughing at 0.66 MAC which was confirmed with the EMG change (Figure). Laughing was observed in 2/7 with xenon and 5/7 with N₂O (no significant difference between incidences with two anaesthetics). Xenon is another laughing gas.

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- 3 Cullen SC, Eger EI II, Cullen BF, Gregory P. Observa-