

5. Lum LG. The kinetics of immune reconstitution after human marrow transplantation. *Blood*. 1987;69:369-80.

Pharmaceutical Ads in *Annals*

To the Editors: I am a loyal reader of *Annals*; however, I found your last issue (1) repulsively thick with pharmaceutical advertisements. I counted over 191 pages of full-page advertisements compared with only 95 pages of usable text information. This number of ad pages is far in excess of that in previous issues. Are we to expect this 2:1 ratio of ads-to-literature in the use of a limited natural resource?

Donald S. Rubenstein, MD, PhD
Loyola University Chicago
Maywood, IL 60153

Reference

1. *Ann Intern Med*. 1992;116:10-1234.

To the Editors: The 1 March 1992 issue of *Annals* dedicates about 30% of its volume to advertisements, primarily from pharmaceutical companies, interspersed with abstracts of articles and professional ads. We have two problems with this format: First, we object to receiving and having to dispose of this coated (and, in our area, unrecyclable) paper that we do not read. (We have little enough time to read the medical articles, and we tend to ignore the 'glitziest'.)

Second, we have an ethical objection to the use of dramatically colored, thick-stock, expensive-looking advertisements at a time of uncontrolled medical costs, when our patients are justifiably concerned about the cost of prescribed medications (costs that increased dramatically last year). (*Annals* is certainly not alone in these advertising excesses.) The American College of Physicians (ACP) should take the lead in accepting only environmentally sound, plain-paper ads; we believe that the ACP membership will agree with this proposal.

An alternative advertisement such as, "Company XYZ donates the cost of advertising in this journal to the City Indigent Medical Clinic in the name of their new anti-inflammatory drug, ABC" would be more impressive to us, and we would be more encouraged to consider their new product.

Edmund Flink, MD
Mary Ann Antonelli, MD
West Virginia University School of Medicine
Morgantown, WV 26506

To the Editors: Before reading *Annals*, I routinely tear out all glossy advertisements without reading them in order to turn the pages without having the journal snap shut in my face, and to avoid being influenced by advertisements long on gloss and pizzazz but short on information. The March 15 issue brought me up short in that it consisted of a tiny handful of pages of the real journal sandwiched between tons of advertisements.

Is it possible to put all vital information such as abstracts next to the articles so we can rip off the front and the back and get to the journal?

Arnold J. Voth, MD
231 B Royal Alex Place
Edmonton, Alberta T5G 0B4
Canada

Reviewer Bias

To the Editors: Several forms of publication bias distort the medical literature (1). To test the hypothesis that "reviewer bias" exists, a MEDLINE search of publications on transcutaneous electrical nerve stimulation (TENS) between 1983 and 1990 was carried out to identify investigators who had reported original data on this subject. Thirty-three investigators whose data were either clearly for or against the clinical effectiveness of TENS were selected. Investigators whose studies produced

inconclusive results were excluded. The selected investigators were sent a fictitious "research paper" on TENS. It deliberately included strong points and flaws but reported a "positive" result. The manuscript did not contain authors' names, "discussion," or "references." Refereeing was performed by choosing one of five adjectives (from "unsatisfactory" to "optimal") relating to five qualities: study design, patient description, statistics, end points, and language.

Sixteen questionnaires were returned, including eight from the "pro" and eight from the "contra" TENS subgroups. Table 1 shows that the "pro" referees judged our "paper" more favorably than did the "contra" referees. A score, constructed by adding the answers to all five questions, differed significantly between the two groups (5.7 compared with 11.3, $P < 0.02$).

Table 1. Absolute Numbers of Ratings Given by "Pro" and "Contra" TENS Reviewers*

Categories	1 (Unsatisfactory)		2 (Defective)		3 (Adequate)		4 (Good)		5 (Excellent)		P Value†
	Pro	Contra	Pro	Contra	Pro	Contra	Pro	Contra	Pro	Contra	
Study design	0	1	1	2	4	3	3	2	0	0	0.12
Patient description	1	3	0	3	3	1	4	1	0	0	0.04
Statistical methods	0	0	1	2	3	6	4	0	0	0	0.06
End points‡	0	1	1	4	0	2	5	0	0	0	0.01
Linguistic quality	0	0	0	1	4	4	2	3	2	0	>0.2

* Numbers indicate absolute frequencies of ratings. TENS = transcutaneous electrical nerve stimulation.

† Using two-tailed probability, Wilcoxon rank test for independent samples.

‡ No rating provided in two cases.

Our findings suggest that reviewers do not detach themselves from their previous experiences. Yet, to our knowledge, "reviewer bias" has not previously been verified. Such bias, like other publication biases, could suppress nonconformist views and could perpetuate myths, misconceptions, and outdated views. If it is a general phenomenon in science (as we suspect it is), it could be one mechanism of delaying progress. When editors are aware of its existence, they should invite referees with differing views.

A similar trial (2), pursuing the aim of testing a journal's policy rather than reviewers' behavior, was recently deemed unethical (3). Informed consent is mandatory for research testing patients (4) but not for research testing reviewers (5). The present study would *not* have been possible *with* informed consent. All participants have since been debriefed.

E. Ernst, MD
K.L. Resch, MD
E.M. Uher, MD
University of Vienna Medical School
A-1097 Vienna, Austria

References

- Rennie D, Flanagan A. Publication bias. *JAMA*. 1992;267:411-2.
- Epstein WM. Studying journal editors, the worst heresy. *International Review Board*. 1989;11:7-8.
- Kemper KJ. Pride and prejudice in peer review. *J Clin Epidemiol*. 1991;44:343-5.
- Silverman WA. The ethics of human experimentation. In: *Human Experimentation—A Guided Step into the Unknown*. New York: OUP; 1985:153-72.
- Feinstein AR. Construction, consent, and condemnation in research on peer review. *J Clin Epidemiol*. 1991;44:339-41.