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### Data falsification should be a criminal offence

Dear Sir,

I read with interest the two articles on academic fraud in the August 2012 issue of *Bone & Joint*<sup>360</sup>.<sup>1,2</sup> They are well-written, thought-provoking and a must read for researchers and clinicians. Written by two highly respected medical professionals, they have a slightly different perspective and emphasis.

Marcovitch's article focuses more on fraud, the falsification of data to support invalid conclusions, and gives examples of this in the literature. To some degree he also talks about plagiarism but the article by Rajasekaran puts more of an emphasis on this and in particular about what he feels is the underlying cause (i.e. publish to flourish) of this problem.

Cheating in publishing should be divided into fraud and plagiarism and not grouped together. Both are forms of cheating with some overlap but they are very different in their motivation and the problems they create. Fraud is the creation of false data that can lead to conclusions that may be harmful to patients, such as the Cruz articles<sup>3,5</sup> alluded to by Marcovitch. Plagiarism, which comes in different forms and is explained by Rajasekaran, is used to enhance academic careers. Both are forms of cheating with harmful consequences but I see fraud as potentially more immediately harmful to patient welfare. The detection of both forms of cheating is difficult and I think the punishment for each should be treated differently.

The reason detection of both is difficult is because reviewers for journals and grant applications are experts who really do not have enough time for this exercise and are not compensated appropriately. I recognise that journals and granting agencies have their own paid employees who do the lion's share of the review process but they are still dependent on the experts in the field. As far as I know, the journals at least try to make a profit, but they expect reviewers to give their expertise gratis. I think reviewers should be paid. In addition, perhaps at the end of every article there should be an acknowledgement to the reviewer, which would not only serve as recognition, but also make the reviewer more accountable. Also, for important articles that may affect patient care, the reviewer should have access to the data that are the basis for the conclusions of the paper. Grant awarding bodies should review the data of the research that they funded before it is submitted for publication.

The punishment for fraud, if it has implications for patient care, should be very harsh. It should not only lead to loss of licence and position, but also should be dealt with by civil courts. The reference to the Korean researcher<sup>6,7</sup>

in the article by Rajasekaran illustrates how a dishonest researcher was allowed to continue performing research in his country in a private facility. Fencing criminal charges for falsifying data would be a significant deterrent.

Plagiarism in its many forms is motivated by the 'publish or perish' philosophy. Scientists and clinicians pad their resumé's by publishing articles that use the same data that have previously been used in a major article in multiple lesser journals, many of which are by invitation. As suggested by Rajasekaran, only the author's best four or five papers should be considered when he or she is being considered for a job, promotion or peer-reviewed funding. Another method would be to assign a scoring system awarding points for prestigious reputable journals, full articles versus abstracts, original research *versus* duplication, etc. Instead of counting the number of articles, total points awarded would be more meaningful. This method would be more beneficial to the very productive academic who may have more than four or five best articles to be considered.

There is certainly no easy solution for academic cheating. I think reviewers should be compensated and in some way be accountable. Falsification of data that may affect patient care should be a criminal offence.

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### REFERENCES

1. **Marcovitch H.** Can you believe all that you read in the medical journals? *Bone & Joint* 360 2012;1(4):2-4.
2. **Rajasekaran S.** Publish to flourish: is it corrupting science? *Bone & Joint* 360 2012;1(4):5-7.
3. **Cruz C, Minoja G, Okuchi K.** Improving clinical outcomes from acute subdural haematomas with emergency preoperative administration of high doses of mannitol: a randomized trial. *Neurosurgery* 2001;49:864-871.
4. **Cruz C, Minoja G, Okuchi K.** Major clinical and physiological benefits of early high doses of mannitol for intraparenchymal temporal lobe hemorrhages with abnormal papillary widening: a randomized trial. *Neurosurgery* 2002;51:628-638.
5. **Cruz C, Minoja G, Okuchi K, Facco E.** Successful use of the new high-dose mannitol treatment in patients with Glasgow Coma Scale Scores of 3 and bilateral abnormal papillary widening: a randomized trial. *J Neurosurg* 2004;100:376-383.
6. **Hwang WS, Ryu YJ, Park JH, et al.** Evidence of a pluripotent human embryonic stem cell line derived from a cloned blastocyst. *Science* 2004;303:1669-1674. Erratum in: *Science* 2005;310:1769. Retraction in: **Kennedy D.** *Science* 2006;311:335.
7. **Hwang WS, Roh SJ, Lee BC, et al.** Patient-specific embryonic stem cells derived from human SCNT blastocysts. *Science* 2005;308:1777-1783. Erratum in *Science* 2005;310:1769. Retraction in **Kennedy D.** *Science* 2006;311:335.