

## Abstracts—sometimes useful, sometimes dangerous

A recent paper, and the subsequent exposure given to it, highlights the hazards of publishing abstracts. The danger comes from quoting conclusions without the reader being able to assess if the conclusions are valid. Who is to blame if the conclusions are wrong and many readers, reading only the quoted abstract, are left with very misleading information?

The use of an abstract published with the full article (such as is done with all the articles in *QI* and many journals) should be distinguished from an abstract quoted in another publication, which may use only one or two conclusions from an article, devoid of supporting material. The former is a positive aid to busy readers since they can check questionable conclusions; the latter is fraught with potential problems.

The conclusions of the study in question<sup>1</sup> were given wide exposure by being quoted in an informative and popular newsletter<sup>2</sup> that has the greatest paid circulation of any dental publication of which I am aware; perhaps as many as 100,000 colleagues around the world read this report. Thus the potential danger. The intent was admirable—namely, to draw attention to the inadequate data supporting claims of pulp capping with resins. The unintentional effect, however, was to promote the invalid conclusions of poor science.

The study evaluated the histological responses of pulp capping with adhesive resins. It's an interesting question. But should investigators draw negative attention to commercial products by name when using the products in ways that are specifically contraindicated by the manufacturer? It's like driving a Mercedes Benz car built for highways off the road and over rocks and rivers in the countryside and claiming the vehicle is dangerous because a big rock punctured the fuel tank!

To my knowledge, none of the materials tested is recommended for pulp capping. The study was carried out on rats by preparing their diminutive teeth with a No. 1/2 round bur until exposure of the pulp was evident. Sounds like the equivalent of preparing human molars with two or three No. 10 round burs taped together! How can a pulpal exposure of “.5 to .7 mm” on a miniscule rat tooth have any relevance to the human condition? How wide would the equivalent pulpal exposure on a human molar be? And is this size and type of exposure normally suitable for pulp capping?

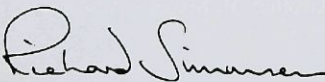
The authors start out with an unrealistic study on a contraindicated technique with an inappropriate material.

But there is worse to come. On at least one of the materials tested, the authors of the study failed to use the key component for bonding to dentin—the primer. Use of the system without the primer results in bond strengths of zero, nothing, no bond at all. Is it therefore surprising that the samples showed “severe pulpal responses . . . after 90 days,” which were attributed to “the existence of a gap between the resin and the cavity walls”? Of course there will be a gap with zero bond strength! Of course there will be bacterial infiltration when there is no bond! And of course the result will be pulpal pathology. This article did not deserve to be published.

Thus the problem. Anyone reading the article can pick up the weaknesses in the study design as I have done here. However, the world read the abstract, which noted that for two of the materials tested, “Severe pulpal reactions at all evaluation periods and no formation of secondary dentin” was found. That is all the abstract included. The materials were damned.

Perhaps abstracts quoted out of context should carry the following disclaimer: “The abstracts quoted below may be the results of invalid studies and as such could be inaccurate and irrelevant. Readers are encouraged to consult the original article.”

Without supporting data, abstracts can be dangerous. If a publication wishes to use selected conclusions that can seriously affect a reader's views, it behooves an editor to read the original article to confirm that the conclusions are valid, or publish a disclaimer. Otherwise it is simply unwise to print a free-standing abstract.



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### References:

1. Tsuneda Y, Hayakawa T, Yamamoto H, Ikemi T, Nemoto K. A histopathological study of direct pulp capping with adhesive resins. *Operative Dentistry* 1995;20:223-229.
2. *CRA Newsletter*. 1995;19(12):4.