LETTERS FROM OUR READERS

To: Editor, *The Angle Orthodontist*

I have recently read the last four issues of *The Angle Orthodontist* from cover to cover and found them very inspiring, interesting, and informative. As editor you must be working very hard to produce such exceptional journals.

However, in the latest article ''Effect of Using Self-Etching Primer for Bonding Orthodontic Brackets'' the word ''MEGABOND'' (Kurary Medical) is used. This word (product) has been employed by us clinically and published for more than 10 years.

In fact, if you read Newman and Newman ''In Vitro Bond Strengths of Resin Modified Glass Ionomer Cements and Composite Resin, etc.'' *Angle Orthod.* 2001:7l:312–317, you will note ''MEGABOND'' is referred to several times. Also see the article ''Comparative Assessment of Light-cured Resin Modified Glass Ionomer, etc.''*Am J Orthod Dentofac Orthop.* 2001;119:256–262. The Kurary material is a self-etching primer while our clinically tested material is a promoter (modified Bowen formulation).

Although self-etching primers have great potential, presently our in vitro and in vivo findings indicate that 37% phosphoric acid etch (containing fluoride) 30 seconds still gives us maximum long term (2–3 years) bond strengths. In addition, the mixing of two parts gives us the most successful results whether dual-cure, light-cure, or self-cure is employed.

Researchers tend to use older, drier teeth and subsequently get fractured enamel in their in vitro testing. Fortunately, the clinician and patient don't have scanning electron microscopic eyes after debonding to determine deleterious effects on enamel.

As far as we can determine clinical decalcifications are due primarily to poor oral hygiene (bacterial plaque). Fluorides and other bacteriostatic agents are helpful and anticariostatics under optimum patient oral hygiene conditions.

Our in vitro research at New York University, ''Comparative Analysis of Resin-Modified Glass Ionomer Dual-Cure Orthodontic Adhesive; Composite Light Cure Adhesives and Self-Etching Primer. (Shear/Peel Bond Strength Testing)'' [master's thesis]. New York, NY: University of New York; See Table 15 Shear Bond strength of all adhesives (Mean, Standard deviation and Range). Affirm (acid-etch paste-paste Megabond) = 17 MPA. Dual-Cure or Self-Cure have similar bond strengths. Transbond and self-etching primer = 8 MPA.

As clinicians, we are most concerned about bonds breaking at inopportune times during treatment. Affirm has decreased this concern. Comparing bond strengths for over 40 years helps extrapolate results between in vitro and in vivo and screens acceptable adhesives quite well.

Why didn't the last two investigators of bonding in the *Angle Orthodontist* include the aforementioned articles in their references?

George V. Newman, DDS
Richard A. Newman, DDS

Response from Dr. Hayakawa:

Thank you for the thorough comment concerning our manuscript entitled ''Effect of using self-etching primer for bonding orthodontic brackets'' in *The Angle Orthodontist*; 72:558–564;2002. I will do my best to answer to your comment and questions.

In this paper, we investigated the effectiveness of Megabond self-etching primer instead of phosphoric acid, for bonding orthodontic brackets to enamel, when used with composite resin adhesive and with resin-modified glass ionomer cement. We applied Megabond self-etching primer directly on the enamel without any etching treatment. When it is used with resin-modified glass ionomer cement, Megabond self-etching primer gave no significantly different shear bond strength, compared with that of the polyacrylic acid etching. But when it is used with composite resin adhesive, Megabond self-etching primer gave significantly lower shear bond strength than that of the phosphoric acid etching.

In papers by Newman et al. (Angle Orthod 2001;71:312–317, Am J Orthod Dentofacial Orthop. 2001;119:256–262), the effectiveness of Megabond was also investigated. However, they applied Megabond to enamel after etching. This application method was totally different from ours. For example, we intended to reduce the clinical steps for bonding orthodontic brackets to enamel. We decided to use self-etching primer instead of phosphoric acid or polyacrylic acid etching. That is the reason we did not include the above articles by Newman et al in our paper.

Regarding the ''Affirm,'' we are not able to obtain Affirm nor have any information about Affirm in Japan. So we cannot talk about anything regarding Affirm.

Currently, we are still investigating the effectiveness of

Megabond self-etching primer for bonding orthodontic brackets to enamel. If we can obtain interesting results, we will mention something about Megabond with reference to the data by Newman et al.

Dr. Tohru Hayakawa
Department of Dental Materials
Nihon University School of Dentistry at Matsudo
e-mail: Hayakawa@mascat.nihon-u.ac.jp