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THE MEDICO-LEGAL QUESTION

Any controversial medical protocol presents a conceptual question in the eyes of the public and, more importantly, the judicial system. The mercury amalgam controversy now embroiling the dental profession is no exception.

Reports, real and imaginary, of mercury-free dentists being challenged by professional components and occasionally even the judicial system span the continent. The time has come for someone to define the parameters of concern and suggest the establishment of a mercury-free protocol.

Some antagonists claim that amalgam replacement will result in the death of otherwise healthy teeth. If this were true the phenomenon would also apply to anterior teeth where composites have been used for 20 years. Removal of the amalgams by carefully sectioning with a small round burr will not result in any unnecessary damage to healthy tooth structure. In this same context, the ADA position on amalgam replacement with composites brings out the point that the patient is needlessly being exposed to additional mercury vapor. I would counter this by saying that it is a responsibility of the Council on Dental Therapeutics and the Council on Dental Materials and Equipment to establish the proper protocols to limit patient exposure to mercury. It should not matter whether the replacement material is gold, composite, or another amalgam. Replacement of failed amalgam fillings with new amalgam fillings is a common everyday practice with pro-amalgam dentists. Why hasn't the ADA published a scientifically developed protocol to insure that the patient, dentist, and staff receive minimum exposure to mercury vapor/particles during these routine operative procedures?

Within the context of contemporary scientific knowledge, mercury-free dentists should experience no trepidation over the competent placement of posterior non-metal restorations (NMR's), but should be cautious and judicious about expounding the reasons for doing so.

Early studies comparing the efficacy of composites to amalgam in posterior stress-bearing situations invariably utilized composites intended for use only in anterior teeth. Additionally, most of these "studies" did not utilize dentin bonding or even etching procedures. We are sufficiently intelligent and competent to realize that anterior composites would not fare well under these circumstances, without having academicians and bureaucrats impugning our integrity. We were using the best alternative materials available at the time, with the complete understanding that we were trading longevity for elimination of a source of a toxic element and electrogalvanic phenomena. Dramatic advances in materials and techniques have obviated the necessity of that concession.

In March of 1981, Wilder, May and Lienfelder reported the results of their two-year clinical investigation of four first-generation light cured posterior composites to the International Association for

Dental Research (IADR Abstract No. 1096). At the end of two years all of the 120 restorations were clinically acceptable; there were no failures. Although two years is not a long time, these results represented a dramatic improvement over the anterior composites that had been previously used and evaluated.

The state of the art has progressed immeasurably since that 1981 study of first-generation posterior composites. A cornucopia of new posterior alternative materials with superior physical properties has appeared since 1983. Some have five year clinical studies completed or in progress.

At the same time, responsible investigators have begun to seriously consider the documented (non-anecdotal) longevity of amalgam fillings. Maryniuk reviewed the available literature and stated "The studies reviewed suggest that amalgam restorations have a 50% failure time between 5.5 and 11.5 years (JADA, Vol 109, Nov 1984). It would seem, therefore, that the average lifespan of amalgam fillings is about 8.5 years. If scientific documentation, as opposed to anecdotal assumption, is the criteria, the "longevity gap" as an issue is rapidly disappearing.

The American Dental Association requires two acceptable five year clinical studies before it will extend its cherished "stamp of approval" to a non-metal filling material for use in posterior stress-bearing areas. This requirement is not necessary for approval of amalgam products, nor is it a requirement for use of non-metal materials in anterior teeth. This obvious inequity is not only inexplicable and unjustifiable but has been the source of immeasurable consternation to the mercury-free community. We have been subjected to an irrational double set of standards that cannot be scientifically substantiated.

Fortunately, a substantial percentage of the dental profession has apparently become aware of the rapidly diminishing credibility of the pro-amalgam establishment, whether out of concern for the health of their patients or an enlightened eye for the future. At the 1984 ADA Scientific Session, Dr. Karl F. Leinfelder reported "From 1981 to 1983, amalgam moved from having 72% of the market to having 49%; composites moved from 28% to 51%. I expect this trend to continue in 1984." (JADA, Vol 109, December 1984). Based on this information, the doctrine of "Usual and Customary Practice" has now risen to our defense. Scientific studies of physical properties and restoration longevity, coupled with trends in "usual and customary practice" now substantiate that the competent placement of NMR's can no longer be categorized as "non-traditional", "fringe" or "alternative" therapies.

The key word, obviously, is "competent". Optimum techniques and selection of materials is imperative. We cannot afford to be inattentive, uninformed or ill-prepared, particularly in the face of the rapid multiplication of materials, techniques and knowledge. Bio-Probe is attempting to help fill the knowledge gap by addressing the topic in the Bio-Probe Manual and with continuous up-dates in the "materials" and "techniques" departments of the Bio-Probe Newsletter.