Editorial

Technology transfer—it must go faster

The benefit of expeditious technology transfer to health care professionals is readily apparent. Without rapid assimilation of new information, techniques, and materials by the profession, the public is denied the latest and best treatments. In medicine, unhurried technology transfer may mean lives lost. In dentistry, lack of attention to oral health can have a major impact on general health, and millions may suffer irreversible consequences if technology transfer is not pushed forward swiftly.

There can, of course, be problems with pushing forward too rapidly. Clearly, all testing must be finished before any new material or technique is transferred to the profession. But then how long must the world wait before new technology is adopted by the profession? And how is this transfer of new technology best accomplished?

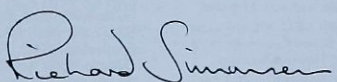
A good—or bad—example of technology transfer is pit and fissure sealant. The concept of pit and fissure sealing has been well known for many years. In fact, the first publication that I have been able to locate stems from 1895.[1] However, it wasn't until Buonocore's pioneering work, published in 1955, that a clinically succesful method of sealing pits and fissures with the acid-etch technique was suggested.[2] It took a further 10 years for research to progress to the presentation of an oral abstract and thereafter to many scientifically sound studies that showed positive results.

The first sealant product was marketed in 1971. Yet in 1992, more than 20 years since a product was first introduced, Gift and Newman[3] reported that only 10% of 5- to 8-year-old children and 15% of 12- to 14-year-old children have the benefit of (at least one) sealant. This a horrifying example of failed technology transfer, or of technology denied for some unknown reason, to the great long-term detriment of millions of dental patients. How many millions of teeth have been restored, and are being re-restored with restorations of greater and greater complexity and cost, as a result of the poor technology transfer of the preventive concept of pit and fissure sealant?

Why was the transfer and acceptance of this preventive technology so excruciatingly slow? There are probably many factors, perhaps related to such things as slow acceptance of anything new on the part of some practitioners, belated acceptance by third-party insurers, and minimal promotion of the material and the preventive concept by manufacturers. The last is a regrettable consequence of the lack of enthusiasm shown for the product by the profession and the resultant small profit potential for sealant in the marketplace.

How can the problems of technology transfer, from which the acceptance of pit and fissure sealant suffered, be avoided in the future? As the speed of new technological developments increases, so does the importance of the transfer of such technology to the profession. The onus for promoting rapid technology transfer falls on the universities and the manufacturers. Greater cooperation between the two will be of mutual, as well as societal, benefit. The onus for *acceptance* of new technology, however, falls on the practicing professional.

Unless all three groups, the manufacturers, the universities, and the profession, can work together for the common good, optimal technology transfer cannot be successful. Without optimal technology transfer, everyone loses.



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3. Gift H, Newman JF. Oral health activities of US children: Results of a national health interview. J Am Dent Assoc 1992;123:96–106.