

## Preserving healthy teeth throughout the life cycle, the biological asset.

Rodrigo A. Giacaman.<sup>1</sup>

**Affiliations:** <sup>1</sup>Department of Oral Rehabilitation, Cariology Unit, University of Talca, Talca, Chile; Interdisciplinary Excellence Research Program on Healthy Aging (PIEIES), University of Talca, Chile.

**Corresponding author:** Rodrigo A. Giacaman. Centro de Clínicas Odontológicas, Av. Lircay s/n. Talca, Chile. Phone: (56-71) 2201570. E-mail: [giacaman@utalca.cl](mailto:giacaman@utalca.cl)

The world is rapidly aging and elderly people are retaining more teeth, increasing the demand for care. In most of the Latin American countries, the population over 60 years old will make up at least one fourth of the total population. This new group of aged people are no longer satisfied with losing all their teeth and wearing a complete denture. Older adults and people in general are currently demanding a better standard of care and are starting to acknowledge the importance of their own healthy teeth. Hence, definitive teeth that appear at 6 years-old constitute a “biological asset” that must be preserved healthy and functional until the age of 90 years or more. Prevalent oral diseases affect most of the population and impose a heavy burden to countries, both economically and socially. Public and private offer is not and will never be sufficient to meet the needs of the population. In most cases, the response to oral health problems derived from dental caries is to restore the affected tissues using artificial materials. This traditional restorative treatment is not accessible to everyone, which increases social inequalities, a widely recognized problem in many developed and developing countries.

Dental caries is the most common disease in humans, affecting about 35% of people worldwide and about 45% of the population in Latin America.<sup>1</sup> Besides a deterioration in the masticatory function, caries decreases the quality of life and self-esteem of affected people.<sup>2</sup> Given its endemic prevalence, the high costs and its physical and psychological consequences, caries must be considered as a public health concern. Caries is a disease caused by sugars consumption. Prevention, therefore, should be based primarily on intake restriction. When setting priorities, a misled approach has been typically taken over the years. Oral hygiene and antibacterial or fluoridated agents have been presented as the most important, if not the only measure to tackle the disease. In practice, dentists face people that comply with oral hygiene and are exposed to different sources of fluoride, yet, they keep developing lesions. Although some other factors may also be at play, the most likely scenario is that they are frequently consuming high quantities of sugars. Since changing habits is not an easy task, caries will keep affecting a large proportion of the population. Once lesions have developed, in the crown as well as in the root, traditional dentistry will solve the problem by removing the affected tissues and placing restorations, which involves the removal of healthy tissues. Adding to the healthcare access problem, these restorations will inevitably fail in the short or medium term and must be replaced with increasingly complex, bigger and costly restorations. This cycle of restorations will end up in the loss of the tooth and the need for a prosthetic solution. The relatively novel approach of the

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“minimally invasive dentistry” involves using conservative and ultraconservative techniques to treat carious lesions, selectively and partially removing affected tissues.

These techniques allow retaining much more sound structures and sometimes do not even warrant the removal of affected tissues. The advantages are obvious; maximum preservation of teeth, painless procedures, very short treatment times and very low cost. Unfortunately, clinical dentistry still holds the more traditional restorative principles. From our own experience, nothing lasts a period of 80 or more years. Life expectancies are reaching 90 years or even longer in many cases. Avoiding surgical interventions on the “biological asset” will delay the cycle of restorations and will allow longer survival of the teeth. Current evidence supports being conservative in making restorative decisions. In light of the accumulated knowledge, there is no reason to intervene on non-cavitated lesions. On the other hand, due to the slow

lesion progression, in the great majority of cases, the most reasonable clinical attitude is to control the lesions before a restoration is indicated.<sup>3</sup> Indeed, a consensus on the most appropriate management of the lesions has been recently reached, strongly recommending a preventive and conservative approach, and selective and conservatively removing caries-affected tissues.<sup>4</sup> Generating changes in professional behavior is a time-consuming process requiring intensive advocacy from universities, opinion leaders, industry, and political authorities. The lack of access to oral healthcare by the population will not improve until a different approach to prevent and treat caries takes place. When widely implemented, the enormous cost reduction implied will increase coverage and access to oral health, with a more efficient and rational use of the resources. Only in this way, the “biological asset” will remain functional until the end of our days allowing people to age with a smile on their face.

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