

## The Environmental Effects of Amalgam Tooth Fillings

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**Abstract :** This study investigates the heavy metal content in the saliva of persons with amalgam tooth fillings. For this purpose, samples of saliva have been collected based on two factors i.e. the number of amalgam fillings in the mouth (one, two or three fillings), and the time factor i.e. the time since the fillings have been in place (less than a year and more than a year). Samples of saliva have also been collected from persons with no amalgam tooth fillings for control. The samples that have been collected so far, have been examined for the basic heavy metal content featuring amalgam, which include mercury (Hg) and silver (Ag). However, all the above mentioned elements have been detected in the samples of saliva of the persons with amalgam tooth fillings, though with varying amounts depending on the number of fillings. Thus, for persons with only one filling the average quantities were found to be 0.00061 ppm and 0.033 ppm for Hg and Ag respectively. On the other hand for persons with two fillings the average quantities were found to be 0.0012 ppm and 0.029 ppm for each of the two elements respectively. However, in order to understand the chemical reactions associated with amalgam tooth fillings in the mouth, the material have been treated outside the mouth using some nutrient media. Those media included drinking water, fizzy drinks and hot tea. All three media have been found to contain the three elements after amalgam treatment. Yet, the fizzy drink medium was found to contain the highest levels of those elements.

**Keywords :** amalgam, mercury, silver, fizzy drinks, media

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