

History of the dentifrice - toothpaste

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Abstract

Dentifrice and toothpowder are often used to define tooth cleaning agents from antiquity to the beginning of the 20th century and *toothpaste* after that.

Keywords: toothbrush, dental floss, dentifrice, halitosis, miswak, mouthwash, oral hygiene, toothpaste, toothpick

Dentifrice and toothpowder are often used to define tooth cleaning agents from antiquity to the beginning of the 20th century and *toothpaste* after that. The word comes from the Latin *dentifricium* (*dens* - tooth and *fricare* - to rub).

Indians, Babylonians, Egyptians, and Greeks recommended wiping one's teeth with an abrasive material. An ancient Indian recipe included a mix of crushed charcoal and salt. Red salt and juniper were pulverized, mixed, and applied to one's teeth according to a Babylonian tablet (1). In the 4th century BCE, Hippocrates suggested using a cloth dipped in honey to wipe off one's teeth with toothpowder. Galen, the 2d century Roman-Greek physician, recommended using powder of radishes dried in the sun and the essential oil from Indian spikenard (muskroot). The content of the tooth powder varied over centuries and cultures. They included crushed bone, eggshell or oyster shell, salt, alum, chalk, pumice, and soot or charcoal. Vinegar, wine, or honey was often added to the mix. Chinese added either mint or ginseng to improve the taste.

At the turn of the 20th century, toothpowder was substituted for softer toothpaste. Dispensed initially from a tin, porcelain, or paper box, dentists sold toothpaste under the practice's brand. It contained borax, sodium bicarbonate, charcoal, and a detergent identified as "soap". That was a precursor to sodium lauryl sulfate (SDS), the detergent introduced after WWII, an ingredient that makes today's toothpaste foam. A significant advance in toothpaste delivery occurred in 1892 when Dr. Washington Sheffield, a Connecticut dentist, adopted the Parisian landscape painter's collapsible tube. In 1896 Colgate issued its Ribbon Dental Cream, dispensed from a collapsible tube.

The omnipresent toothpaste fluoride was first identified as a preventive agent in 1843(2), and it became mass marketed in 1895 by the KF Toellner Co. of Bremen, Germany. Patented in 1915 in England, fluoride became widely available in toothpowder, toothpaste, and mouthwash only in 1955 (3-5). Modern toothpaste includes fluoride, pulverized calcium carbonate, dehydrated silica gels, hydrated aluminum oxides, sorbitol and saccharin for taste, glycol, and glycerol as humectants, and SDS. Potassium nitrate was added for hypersensitive teeth starting in 1961.

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1. Figure. Cover of Cherry Toothpaste porcelain jar. (Museum of the Tooth, Stony Brook University. Reproduced with permission)