

## Licensing and Technology Transfer Opportunity: Manipal University

**Title of Technology Available:** A dental device

**Brief Description of Invention:** The present invention relates in general to a dental device, and more particularly to a dental device which comprises a toothbrush connected to a handle at one end. The rear end of the handle comprises a toothpick that can be moved in and out from its position from the lower end of the handle, by pushing the button situated above the toothpick. The toothbrush is detachably connected to the handle.

**Brief Background of Invention:** The accumulation of plaque on teeth is one of the most common causes of tooth loss. Prevention of plaque formation on all tooth surfaces leads to a dramatic reduction of the incidence of caries and periodontal diseases. The early stages of disease are reversible through brushing in these areas to reduce debris and plaque accumulation, which will prevent further complications. A toothbrush is a principal device for mechanical removal of plaque. Toothpaste aids the toothbrush in the biomechanical removal of these debris. Various types of toothbrushes are available in the market but one of the major drawbacks in all of them is its access in the lingual and palatal aspect of posterior teeth and posterior aspect of second/third molar teeth, which are likely to be affected by disease. Its use also gets limited in conditions like trismus, oral sub mucous fibrosis, around artificial prosthesis and orthodontic bands.

Often a toothbrush is not sufficient to clean the interdental spaces adequately, so it is extremely important to find an interdental device that the patient likes and will use. Toothpicks can be used with or without a handle.

Therefore our invention is a single dental device which incorporates a toothbrush and a toothpick, to allow a user to easily and conveniently perform a complete dental hygiene regiment. The other advantage is that the toothbrush can be detached from the handle and used on the finger. Better tactile sensation in the finger, helps in more comfortable brushing for certain populations.

**Describe the final product:** The present invention provides a novel and improved dental device which can be conveniently and efficiently used to clean virtually all tooth areas, and thereby provides optimum removal of plaque and overall improved dental hygiene.

A dental device is provided comprising a toothbrush, handle characterized in that the rear end part of the handle has a slot which contains a toothpick that comes out of the lower end of the handle as the button situated just above the toothpick is pushed down. The toothbrush has a width of 7.9 mm and surface area of 2.54 cm<sup>2</sup>. The toothbrush has a plurality of bristles attached to it, wherein the bristles are made of nylon. The toothbrush is detachably connected with the handle. The toothpick has a conical tip and the length of the toothpick is 5-6 mm.

**Technological Domain (Keywords):** toothbrush, interdental space, finger brush, dental plaque, toothpick

**Proof of Concept:** The present invention provides a novel and improved dental device which can be conveniently and efficiently used to clean virtually all tooth areas, and thereby provides optimum removal of plaque and overall improved dental hygiene.

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**Stage of Development:**

Ready to market technology

**Provide Information on Competitors who manufacture and/or sell similar products:** Colgate, Pepsodent

**What are the unique advantages your innovation as compared to the competition:** Our invention is a single dental device which incorporates a detachable toothbrush and an attached toothpick, to allow a user to easily and conveniently perform a complete dental hygiene regiment. The toothbrush can be detached from the handle and used on the finger like a cap. Better tactile sensation in the finger, helps in more comfortable brushing for certain populations. The brush head is designed to reach the back areas of the mouth.

**A few potential companies who might be interested in this technology:** Colgate, Pepsodent

Intellectual Property Status: Indian Patent application with number 201741008796 (OR16C233) filed in 2017.