

1-866-SOLADEY (765-2339)

# Soladey

LIGHT ACTIVATED IONIC TOOTHBRUSH  
NEW TECHNOLOGY LIGHT YEARS AHEAD

## How Soladey™ Works

**Soladey** contains a photo-sensitive titanium rod inside the handle. When exposed to any type of light source the rod releases TiO<sub>2</sub> ions which blend with saliva to attract positive (hydrogen) ions from the acid in the dental plaque. The acid is then neutralized and plaque is disintegrated – a scientific approach to a cleaner and healthier mouth! Soladey's clinically-proven, photocatalytic antibacterial, long-lasting action also makes it effective against cariogenic Streptococcus, Escherichia Coli, and Lactobacilli mutans.

## Features

- The first patented Ionic toothbrush
- Clinically-proven: removes more plaque than other toothbrushes
- Ionic action keeps plaque and bacteria from sticking to teeth
- Recommended by Dentists & Hygienists
- Feel it work the first time...and every time you brush
- Toothpaste not required – use preferred mouth rinse for fresh taste
- Long lasting effect reduces bacteria & morning breath
- Combats bad breath and plaque all day
- Helps reduce the risk of gum disease & bleeding gums
- Aids flossing to reach where floss & bristles cannot reach
- Users report their teeth brightened after continued use
- Brush anywhere...perfect for kids in school, busy or business people on the go, travelers, and camping
- Soladey's handle lasts indefinitely and maintains effectiveness
- No Batteries, no electricity, no mess



Clinical studies available at [www.soladey-usa.com](http://www.soladey-usa.com)

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# The Titanium Toothbrush

During a recent trip to Las Vegas, I accidentally discovered that a high tech toothbrush plus saliva could really help patients fight plaque. I believe this brush is the latest and greatest in new technology for patient care. I had some extra time during my trip, and, like many American women, I went shopping. I found a kiosk that claimed to have miracle skin care lotion. When I mentioned to the salesperson I'm a dental hygienist, she said, "You might be interested in the new ionic toothbrush, which cleans without toothpaste." Curiosity got the best of me, especially since I write this column about new technology. More importantly, I wanted to know why she thought this toothbrush was worthwhile. The fact that the information was coming from a non practitioner and non-dental supplier caught my attention.

## What I Discovered

I have known about ionic toothbrushes for years, and they are not a new item to the dental hygiene market. In fact, several of my patients have used them for years. What makes this product different is that it works without batteries, just with light and saliva. The brush originated in Japan in 1985, and has been used in that country ever since (I have always been interested in what they do in Japan regarding health). I called the company, Soladey-USA, and what happened next literally changed my and my patients' brushing habits for life. The CEO of Soladey-North America is Erik Powers.

In all of my years as a dental hygienist, I have never met a company so passionate about educating consumers about brushing. He was kind enough to send me an ionic brush, and I am happy to report I cannot live without it.

Trisha E. O'Hehir, RDH, BS, wrote a book called "Tooth Paste Secret," which explains why dry brushing is crucial to effective plaque removal. I believe this, but getting my patients to dry brush is a challenge because they believe toothpaste removes plaque, while it is the actual friction of the brush that is more effective in plaque removal. So now I promote a high tech brush that requires no toothpaste, which dovetails nicely with dry brushing plaque using modern science technology.

## The Titanium Dioxide Toothbrush

This brush contains a titanium dioxide rod inside the neck of the brush handle that is sensitive to either natural or unnatural light. The ionic brush has been specially designed with a small specialized brush head to reach hard-to-clean areas. The patented titanium dioxide rod is responsible for the ionization action. The removable brush head contains no titanium. The rod handle lasts a lifetime and needs no replacement. Patients should be instructed to change the removable brush head, which come at a reasonable cost, every two to three months. It works best without toothpaste so dry brushing becomes easy.

## Light Energy Activation

The ionic toothbrush works on the principle of polarity, using light to activate. Every element in nature has a positive or negative charge. When the polarities are opposite, the two elements cling together. That's why dust sticks to your coffee table and why plaque, which has a positive charge (+), clings stubbornly to teeth, which are negatively charged (-). The ionic toothbrush temporarily reverses polarity of the tooth surface from negative to positive, drawing plaque towards the negatively charged toothbrush head.

When you brush with an ionic toothbrush, the constant flow of positive ions from the ionic action temporarily reverses your teeth's polarity. This makes your teeth reject plaque, even in areas that aren't touched by bristles due to saliva-bathing the teeth. An imperceptible electronic circuit is created in the presence of saliva or water, using light. The electron flow attracts plaque to the negative bristles. I call this "magnetic saliva" brushing. The process is safe, simple, and effective, especially for patients who do not brush thoroughly, such as children or the elderly.

The easiest way to instruct patients is to have them start at the sublingual glands and brush until the saliva pools there. Once the mouth has a sufficient amount of saliva, instruct patients to use it as their "liquid toothpaste." When the brush is in motion on the teeth, foamy saliva appears, much like a hydrogen peroxide reaction in the mouth. One of the bonus features about plaque removal is that the ionic action does not stop working in the mouth when the patient is finished brushing. The effects last a long time, as long as patients don't rinse profusely. The saliva permeates with the ions, which work to naturally reduce the bad bacteria in the mouth. This helped one of my patients with severe bad breath rid him of the problem. I had tried every known procedure to help him, and nothing made a dent until he brushed with ionic reactions.

Clinical studies have been conducted to test the plaque index score before and after use. Overall the results note that a significant amount of plaque is removed using the ionic brush magnetizing the saliva, even though patients may tend to brush more during a clinical study.

One study states: "A new toothbrush called Soladey-2™ has been recently introduced and is claimed to have better plaque removing potential than conventional toothbrushes due to a photoelectro-chemical effect it has on dental plaque (Weiger 1987)." The basic difference between the Soladey-2 and the conventional brush is the incorporation of an N-type semiconductor of titanium dioxide at the neck of the brush. In the presence of light, saturated low energy electrons in the wet semiconductor are transformed into high energy electrons resulting in a reduction reaction. This reaction results in the reduction of H+ ions from the organic acid in the plaque causing its decomposition. The reaction could also have an effect on plaque formation (Kusunoki et al. 1986, Niwa & Kukada 1989). There is also evidence that the powdered TiO2 semiconductor irradiated with visible light has a bactericidal effect against *Escherichia Coli* and *Streptococcus mutans* (Morioka et al. 1988)."

The main difference I see is that some other brushes need batteries, which are not as effective and need to be replaced. When batteries run low, patients may continue to use their brush without knowing it has lost its effectiveness. I know this because patients come to me for hygiene care with plaque buildup, and they comment, "Oh, I must need to change the battery in my brush."

The other difference is that during brushing users must keep their hand wet on the metal strip to conduct the ionic exchange to make it work. This to me is a recipe for potential poor patient compliance.

For more information and clinical studies about the TiO<sub>2</sub> toothbrush, visit the Web site at [www.soladey-usa.com](http://www.soladey-usa.com). **RDH**

**References:** \_Clinical Evaluation of a light energy conversion Toothbrush - Hoover JN, Singer DL, Pahwa P and Komiyama K: Clinical evaluation of a light energy conversion toothbrush. J Clin Periodontal 1992;19: 434-436 (Accepted for publication 12 December 1991)

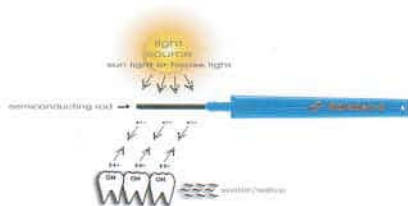


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## THE KEY TECHNIQUE FOR BEST RESULTS

- Brush all the surfaces of your teeth rapidly to remove any surface plaque to begin charging up the saliva with Ions.
- Keep plenty of light in your mouth and on the rod while brushing at all times.
- Concentrate on the inside bottom row of teeth, brushing lightly & rapidly under a good light source, until the Ionic process begins to build a natural white frothy paste.
- Brush thoroughly and lightly, keeping the saliva in your mouth as long as possible.
- Spit as needed, do not swallow.
- Brushing your gums, tongue, and cheeks lightly helps to reduce bad bacteria.
- Soak in Hydrogen Peroxide to clean head.



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## How To Use Your Soladey Ionic Toothbrush:

- Do not insert the semiconductor in your mouth without the brush head firmly attached.
- Wet the bristles and semiconductor with cold water if available.
- Do not brush forcefully; the gentle brushing action, light and saliva is all that is required for best results.
- Keep the rod & bristles in the light as much as possible to allow light to reach the head while brushing all teeth.
- Focus on the inside bottom teeth until the natural white paste builds up and the ionic process begins.
- The longer you keep the charged saliva in your mouth, the harder the ionization process works to remove plaque in between your teeth. Spit when necessary, and do not swallow the built up saliva.
- Your saliva & a good light source works to create an ionic action which helps to whiten your teeth by removing coffee, tobacco & other stains.
- Make certain there is an adequate light source (natural or artificial) necessary to activate the semiconductor.
- The better the light source, the more effective Soladey-2 is. (60 watts or greater – 1 meter or closer to the source)

It is recommended that you rinse with mouthwash before brushing instead of using toothpaste.

Toothpaste is *not needed* and will cover the titanium rod, blocking light to the unit & bristles, which negates the effects and renders the brush as effective as any regular toothbrush.

## Replacing The Brush Head:

To keep your Soladey Ionic toothbrush operating at maximum efficiency, replace the brush portion every 2 – 3 months, depending on brushing habits. Do not separate the brush from the handle except for the purpose of replacement. If the bristles become matted or worn significantly, replace the head or effective results will diminish.

Soladey: [www.soladey-usa.com](http://www.soladey-usa.com) TF: 866-SOLADEY

**SAFETY:** Children 5yrs and under should have adult supervision while using Soladey™. Should the head become detached from the unit, the small metal rod could result in harm to a child or adult if improperly used. Powers International Inc. and Soladey™ assume no responsibility for injuries resulting from the improper use of Soladey-2. Never insert the metal rod into oral cavity, or any other region of the body, without the brush head attached.