



## Case Study - Improved plaque control and stain reduction with a sonic toothbrush

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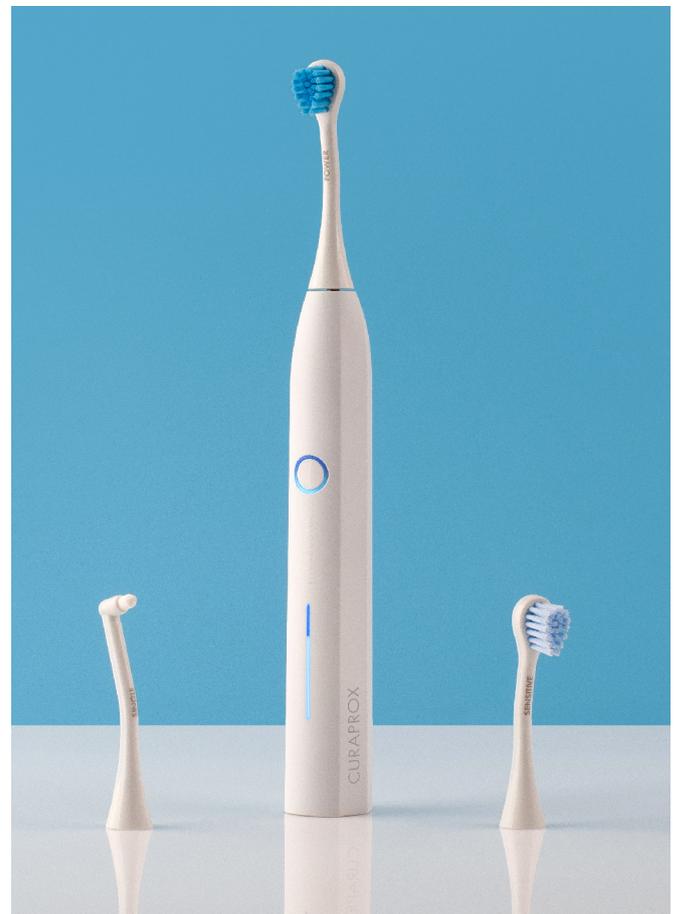
**Several studies show increased plaque control in subjects when using an electric toothbrush<sup>1</sup>, and there are a variety of different technologies available on the market. The choice of device and technique that we recommend for every patient should be tailored<sup>2</sup>. In this case study the patient used a roto-oscillating toothbrush. However, despite being shown several instructions along with encouraging motivation, she complains about multiple stains and felt her teeth were not smooth. Following her attempt in using the correct technique required to disrupt the plaque efficiently was leaving her unsatisfied. Even though the results did not meet her expectations, she wished to continue with an electric device instead of a manual toothbrush. To satisfy this desire, a sonic toothbrush was recommended and we clearly saw major results in plaque control and stain reduction.**

### Material

For this case study the sonic toothbrush "Hydrosonic pro" from Curaprox was used. It has seven different cleaning modes, starting from 44.000 up to 84.000 vibrating motions of the filaments per minute, that create side to side movements with different amplitudes. The brush comes with two pair drop-shaped heads and one single brush head for precision cleaning of the gingival sulcus, implants, braces and hard to reach areas. Bristle motions are at a high frequency and generate turbulent fluid flows. Thanks to the presence of water, toothpaste and saliva, this hydrodynamic force disrupts the bacterial plaque. In vitro studies show plaque reduction for non-contact brushing with sonic powered toothbrushes<sup>3</sup> and clinical studies show improvement in probing attachment levels of periodontal pockets<sup>4</sup>.

### Method

iTOP, Individually Trained Oral Prophylaxis, is used for the motivation and instruction of the patient. Patients are left inspired and enabled on how to use the recommended device and technique, which has been individually chosen for them. The selection is based on acceptance, effectiveness and being non-traumatic. Patients are given an intraoral demonstration on how to perform the correct technique with the selected device. Then they are asked to demonstrate back to the professional the technique whilst receiving guidance.



Hydrosonic Pro

# Case Study

The patient is a 47 year old woman presenting gum recession, multiple restorations, crowns and implants. She complained about multiple stains on her teeth and that her teeth never felt smooth after brushing. The patient has been instructed on multiple occasions on how to use the electric-powered toothbrush with roto-oscillating technology, along with iTOP (Individual Trained Oral Prophylaxis) philosophy and technique.



After using disclosing liquid to highlight the accumulation of plaque after brushing, the results showed plaque in several sites (Fig.1), and revealed the patient's difficulty in performing the correct technique needed with this type of electric toothbrush.

Fig.1 - Start

## First appointment

Following consideration of the presence of plaque, staining, gum recession, multiple restorations, root caries risk and the patient's difficulty in completing the specific techniques, the patient was left motivated and instructed in sonic toothbrushing. Sonic toothbrushes are effective in plaque control, inflammation reduction and do not require a specific brushing technique<sup>5</sup>. The patient was instructed to use the iTOP method, with an intra-oral demonstration of the brush that was followed by the patient using the brush herself with the support and guidance of the dental hygienist.

The patient was instructed to position the "drop shaped" brush head with minimal pressure on the tooth, to enable a maximum benefit of the hydrodynamic flow.

The patient was instructed to hold the brushhead for a few seconds still in place, cleaning tooth by tooth with very small movements. It could be combined with very small horizontal motions. For additional precision of plaque control along the sulcus and mesial/distal surfaces, the patient also received an instruction on how to use the "Single" brush head using the start mode to gently perform sulcus cleaning.

During the same session a professional dental cleaning, without polishing was performed. A recall appointment for plaque control evaluation and polishing has been set after two months.

## Second appointment

At the recall appointment, the patient announced that she is very happy with her sonic toothbrush as she can now feel that her teeth are always smooth after using it. The patient's impressions are confirmed after using disclosing liquid which showed a significant plaque reduction thanks to her improved plaque control (Fig.2).

Final polishing for complete stain removal was performed to conclude the oral hygiene session.



Fig.2 - After 2 months

### Third appointment

At the third recall appointment, which happened after one year, the patient demonstrated that she was able to keep a good standard of plaque control over time and also showed remarkable stain reduction. **(Fig.3)**



Fig.3 - Start / After 2 months / After one year

### Conclusion

Powered toothbrushes are available with a variety of technology, and each technology requests different brush techniques to achieve correct plaque control. Not all electric devices are easy to use, therefore dental professionals should know the various forms available on the market so that individual recommendations can be given to patients.

In this case study the patient was not able to perform correct plaque control with a roto-oscillating powered toothbrush, but was able to achieve and maintain over time a good level of plaque control and stain reduction using a sonic powered toothbrush.

Would you like more information about the Hydrosonic pro?

Visit [www.curaproxyhydrosonic.com](http://www.curaproxyhydrosonic.com)

<sup>1</sup>Journal of Clinical Periodontology volume 46 issue 7 Long -term impact of powered toothbrush on oral health: 11-year cohort study Vinay Pitchika.

<sup>2</sup>International Dental Journal 2000/50 oral hygiene in the prevention of caries and periodontal disease. H.Löe

<sup>3</sup>Clin Oral Investig 2013/4 Brushing without brushing? A review of the efficacy of powered toothbrushes in noncontact biofilm removal. J.Schmidt

<sup>4</sup>J Periodontol 1996 sep/67 Efficacy of a sonic toothbrush on inflammation and probing depth in adult periodontitis. G.O'Beirne

<sup>5</sup>Clin Oral Invest. 2017/21 Efficacy of various side-to-side toothbrushes and impact of brushing parameters on non contact biofilm removal in an interdental space model. Schmidt et al.