Journal of Oral Implantology – Peri-implantitis is an irreversible inflammatory disease that is commonly caused by plaque and biofilm that accumulates on the exterior of a dental implant. It effects both the soft and hard tissues surrounding the implant, and without treatment, may result in excessive bone loss proximal to the implant and its eventual failure. Surgical therapies are most suitable for accessing and removing the biofilm, and thereby impeding the progression of the disease.

Researchers from Wonkwang University (Daejeon, Korea), Yonsei University (Seoul, Korea) and the Global Academy of Osseointegration (Seoul, Korea) published a study in the current issue of the Journal of Oral Implantology that examines a novel surgical procedure to combat peri-implantitis. In the article, the authors conducted two case studies using a newly developed cleaning and regenerative surgical process.

In both cases, a round titanium brush was used to remove the debris, while maintaining the rough surface of the diseased implant. A regenerative approach incorporating bone graft materials was used to rebuild the bone surrounding the implant. The key to successful regeneration of the bone proximal to the implant is to successfully remove the plaque biofilm while maintaining the rough implant surface. The titanium brush used in this technique was extremely effective at removing the plaque biofilm that was causing the disease, while also preserving the rough surface of the implant threads. This made the regenerative process more successful and predictable.

The researchers note that, “The results obtained in the present 2 cases emphasize the importance of mechanical decontamination by eliminating the contaminated surface and creating a new rough surface for a regenerative approach in the treatment of severe peri-implantitis. This technique has the advantages of effective cleaning of the contaminated implant surface and producing positive clinical and radiological results during the 2-year follow-up period. However, further studies are necessary to verify the reliability and validity of this technique.”

After a two-year follow-up period, the researchers found that the bone level was preserved following the use of this technique. In addition, another advantage was shown to be a reduction in chair time benefiting both the implant surgeon with a higher success rate and the patient with

less muscle fatigue and joint pain that is associated with the prolonged opening of the mouth. Overall, the researchers are confident in the outcome of this new technique and recommend future research to track the long-term success of the procedure.

Full text of the article, “Surgical Treatment of Severe Peri-Implantitis Using a Round Titanium Brush for Implant Surface Decontamination: A Case Report With Clinical Reentry,” Journal of Oral Implantology, Vol. 43, No. 3, 2017, is available at: http://joionline.org/doi/full/10.1563/aaid-joi-D-16-00163 .