

Jawbone Reinforced with Titanium Enables Implant Treatment

The jawbone is the foundation for a good dental health. As a consequence of tooth extraction and certain infections, parts of the jawbone may resorb and cause inconvenience. Different methods are available to regenerate jawbone or to reinforce a thin bone crest in order to install implants. The most frequently used material today is based on calf bone, while others include donated human bone. In Sweden, the most common method is to harvest bone from the patient's hip or ramus, which involves an extra surgery site. A relatively new method is based on titanium – a well-documented material used for over 40 years in dental implants.

- The millimeter-sized titanium granules from Swedish Tigran Technologies are used as a scaffold by the body's bone cells during a dental bone regenerative process. Titanium and the newly formed bone together make up a new, strong foundation for implant installment to restore both function and esthetics.

Danuta Lisak has a brilliant smile. Six months ago it was time to replace her bridge since 25 years with a new solution. Because Danuta already 10 years ago had her first implant, she knew what it was all about and was looking forward to replacing the old bridge. "The bridge was never completely comfortable, and I constantly had the feeling of an alien, slightly loose part in my mouth", Danuta explains.

Her dentist, Dr Tatiana Koschke, informed her that the implant treatment needed to be preceded by a reinforcement of the jawbone in order for the implant to be fixed into place, something Danuta at first thought was bad news. "I was eager to get my new implant in place as soon as possible. At first I thought it was bad news when I was told that the implant procedure needed to be preceded by jawbone reinforcement. But I was relieved when my dentist told me that both operations could be done at one occasion. And the fact that the bone regeneration material is made of titanium just as the implant is, felt comforting", says Danuta. The surgery turned out well and now six months later Danuta is pleased: "My new implant tooth looks just like a normal tooth. And it does not move an inch", says Danuta Lisak and smiles.



Titanium – a Well Tried-out Material in the Dental World

Dr Tatiana Koschke, with practice in suburban Stockholm, meets up in her modern clinic and shares her experiences of titanium for dental bone regeneration: "I have made a number of cases of bone reinforcement with titanium, some of which I have done one year follow-ups on.

The material is both easy to work with and gives sustainable, long-term results." The treatment of Danuta Lisak proceeded smoothly and Dr Koschke says she always informs the patient about the operation and materials involved before the treatment starts: "Many patients appreciate the fact that the implant placement and the bone regeneration procedure can be done during the same operation – one surgery is of course always preferable as opposed to two." The idea to use titanium granules for bone regeneration adjacent an implant appealed to me immediately when I first heard of the method about a year ago. The fact that titanium has been successfully used for dental implants for over 40 years makes me confident of the capacity of the titanium granules for bone regeneration, says Dr Koschke.

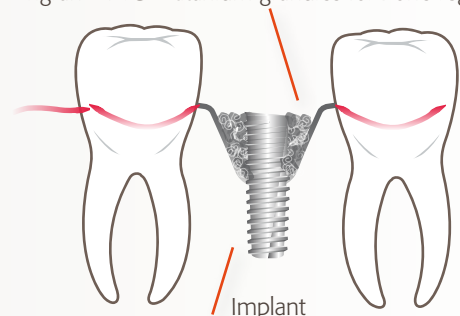
- *Patient Danuta Lisak: "I wanted my implant in place as soon as possible, so when I learned that my jawbone needed a regenerative treatment first, I thought it would be troublesome. But I was relieved when my dentist told me that both procedures could be done at one occasion. And the fact that my jawbone was to be reinforced with titanium, the same material as implants are made of, was good news."*

FACTS

Tigran Technologies offers a system for bone regeneration and implant fixation in the mouth. The technology is based on porous titanium grains acting as climbing frame for the body's bone cells in the process to rebuild jawbone in order to place and stabilize implants and prevent further bone loss. The product is made of titanium, a well-documented material within dental applications.

Tigran runs an extensive development program and has a number of published, submitted and on-going experimental and clinical studies. Every year about 10 million people worldwide have implant surgery.¹ Many of these treatments must be preceded by a bone regenerative treatment, in some countries as many as 50%.²

Tigran™ PTG – titanium granules for bone regeneration



1. Tigran's estimate based on data from MRG 2009
2. MRG 2009

A Stable Jawbone – the Foundation for a Successful Implant Treatment

The jawbone is the foundation for a good dental health. As a consequence of tooth extraction and certain infections, parts of the jawbone may resorb and cause inconvenience. Different methods are available to regenerate jawbone or to reinforce a thin bone crest in order to install implants. The most frequently used material today is based on calf bone, while others include donated human bone. In Sweden, the most common method is to harvest bone from the patient's hip or ramus, which involves an extra surgery site. A relatively new method is based on titanium – a well-documented material used for over 40 years in dental implants.

- The millimeter-sized titanium granules from Swedish Tigran Technologies is used as a porous scaffold by the body's bone cells in the blood during a dental bone regenerative process. Titanium and the newly formed bone form a strong foundation for implant installment to restore both function and esthetics.

Lilja Lindqvist, a 55 year old lady from Stockholm, Sweden, had had her root-filled pivot teeth for a long time, when the bridge a couple of years ago collapsed. The choice was then between a prosthesis and implants.

To Lilja the choice was easy, and she was referred by her dentist to Associate Professor Hans Bystedt for implant surgery. To be able to carry out the installment of three implants, the jawbone needed reinforcement.

When Lilja realized that her jawbone had resorbed and therefore was too thin for implant installment, she was at first very disappointed: "I had made my choice to get implants and was eager to get them in place. But I soon realized that the resorbed jawbone problem could be repaired quite easily by help of little titanium granules acting as a foundation for the implant installation."

Lilja explains that the surgery was successful and that she afterwards was a little sore, but after just a couple of days she felt ok again. The crowns were seated after six months healing of the implants and titanium granules.

And Lilja is content: "My old pivot teeth were not at all as good looking as my new teeth. And I do not pay attention to that they are implants, they feel like my own teeth. I am happy that the treatment could be carried out even though my jawbone at first was too thin!"



- *Patient Lilja Lindqvist: "I had decided to get implants and soon realized that the problem of a thin bone ridge could be easily solved with little titanium granules as a stable foundation for my implant installation."*

Extensive Experience Provides the Patient with Comfort

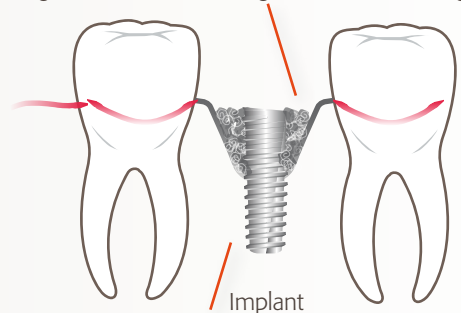
One easily feels in good care at Dr Hans Bystedt's clinic in central Stockholm. Dr Bystedt has performed implant surgery for more than 25 years and has extensive experience of bone regeneration with titanium. "When I first began using titanium for bone reinforcement in connection with implant treatments I used both autograft bone, i.e. bone derived from the patient and titanium, but nowadays I do not see any reason to use bone from the patient since that involves an extra, unnecessary surgery. And in dental practice we have more than 40 years experience of titanium, and recent studies on titanium for dental bone regeneration show very good results", says Dr Bystedt.

FACTS

Tigran Technologies offers a system for bone regeneration and implant fixation in the mouth. The technology is based on porous titanium grains acting as climbing frame for the body's bone cells in the process to rebuild jawbone in order to place and stabilize implants and prevent further bone loss. The product is made of titanium, a well-documented material within dental applications.

Tigran runs an extensive development program and has a number of published, submitted and on-going experimental and clinical studies. Every year about 10 million people worldwide have implant surgery.¹ Many of these treatments must be preceded by a bone regenerative treatment, in some countries as many as 50%.²

Tigran™ PTG – titanium granules for bone regeneration



1. Tigran's estimate based on data from MRG 2009
2. MRG 2009