SLActive a new standard in implant dentistry?

Last week Straumann provided a research update on its third-generation dental implant surface technology, SLActive. According to Straumann, as the first chemically-active dental implant surface, SLActive accelerates the osseointegration process, enhances predictability in every indication, and reduces healing times, from 6 weeks to 3 weeks.

Studies you ask? The company commented in their latest press release:

"In all, more than 14 studies on SLActive have been initiated, with particular focus on the initial healing processes. These add to the existing body of scientific data on SLA that supports the new surface.

The development program and distinct clinical benefits of SLActive were also reviewed at the AO. The new surface has shown outstanding clinical results and predictability. For example, in the multicenter clinical trial initiated in 2004 and involving 19 centers worldwide, more than 400 SLActive dental implants have been placed with a survival rate of 98%. This is remarkable in view of the extremely challenging treatment protocols involving immediate function/loading (211 dental implants) or early loading (190 dental implants).

To add further to the body of peer-reviewed published scientific evidence supporting SLActive, the results of a significant preclinical trial are in the process of being accepted for publication in a leading peer-reviewed journal. **The findings demonstrate that osseointegration occurred up to twice as fast with the SLActive surface by comparison with the current gold-standard SLA surface.** "

These are pretty hefty claims. Does anybody have any experiences to share with SLActive to shed some light on these results? Is this new dental implant surface technology truly going to set a new standard in implant dentistry?

Posted by DDSGadget on May 2, 2006 12:18 PM | Permalink

Comments

I heard that SLA active is a copy of the Friadent surface that has been around for a few years and it is just stored in saline solution.

Posted by: Anonymous | May 2, 2006 11:20 PM

Doesn't it take 40 to 50 weeks for mineralzation to take place, for the human body to heal?

Posted by: Anonymous | May 2, 2006 11:24 PM

While at the AO meeting in Seattle, I heard a lecture by Dr. Wilson, a Periodontist from Tx. He reported on placement of about 300 older Straumann SLA implants in immediate extraction sockets, free-standing, followed by immediate loading. He had 98% success. I asked him from the audience.."do you think you would have obtained 99% success if you used the new SLActive surface." His answer was what you would expect from such a rhetoric questions.. "I'm not going to answer that question." Today, immediate load is a clinical reality in good quality bone with any rough surface, screw implant. If the bone quality or the initial stability is compromised, then an 8-12 week unloaded healing period is advised. To tempt the implant Gods by loading an implant in 3-4 weeks in soft bone because a study in some rabbit tibia showed a 20% higher torque removal or % of bone contact at 3 weeks vs 4weeks, is unwise. A study demonstrating high success with SLActive implants loaded at 3-4 weeks, give Wilson's results with SLA surface implants loaded immediately, does not prove "faster integration" or any clincial advantages. It remains unproven if there would be any statistically significant improvement with SLActive vs SLA, or for that matter, any difference if the implants were loaded in 3-4 weeks or loaded immediately.

Posted by: Jerry Niznick | May 3, 2006 12:24 AM

Be careful to not mix up implantology with marketing...

Posted by: Anonymous | May 3, 2006 04:00 AM

How does the new SLA Active surface compare with the Astra Tech Flouride modified surface. Which is better.

Posted by: John | May 3, 2006 03:29 PM

Remember the old Integral Implants from the '80s? Same story, different surface. The body heals, not the implant, at least not yet.

Posted by: F. J. DuCoin | May 3, 2006 10:25 PM

Interesting that the only posting referring to marketing is from "anonymous". Bet that was from a Straumann Salesperson or "opinion leader." I just voiced my opinion for what it is worth. It is Straumann who is trying to justify an extra $50 dollars or so for its wet surface on marketing claims of 2X faster osseointegration. That isn't even what the studies show that are the basis for this

claim. They show that the low point of stability is reached in the 3rd week vs the 4th week on animal studies. That is why it has no clinical signficance to immediate load implants that either work or fail in the first week. Nor does it have any significance to implants that are left unloaded for 8 weeks or longer. So for those of you who want to load your implants in 3 weeks rather than immediately, or rather than wait 8 weeks, maybe there is some theoretical advantage, but how would you prove that that implant could not have been loaded immediately and still have it be successful?

Posted by: Jerry Niznick | May 4, 2006 02:11 AM

It seems that the closer we get to regular timing of C&B is s good thing.

Faster turnaround is more profit and predictibility with higher risk patients seems a good thing.

When a product puts back the control into the clinicians hands, like the haeling process, it gives us security. If the implant is ususlly less stable in the 2-3 week, but now it is not, then the patient dosent have to worry about not haveing to bite on it and dislodge it. It is this time framr that patients seem to forget that they have a temp or implant in place and that is when bad things happen like temps breaking and the like. JMO.

Posted by: RS | May 4, 2006 08:58 AM

Jerry, back in Palm Springs AO Meeting you did receive the same question you are asking now, when you came up with the implant with three surface characteristics.....

What is the point here?

As a company itself I ´d rather beleive in Straumann and not Nobel, because the history from the swiss people is older...

Straumann need to maintain its market and now fall into marketing, like its "enemy" Nobel,but for sure Straumann people like wilson and co will pay extra money to be straumann.....

it does not happen with doctors who used to be only Branemark and now the are Nobel and the new "things & Toys" plus fashion and passarela, like in paris or Milano....

Albert

Posted by: Albert Hall | May 4, 2006 11:12 PM

The point about claims of increased stability at 3 weeks vs 4 weeks is that it is impossible to prove if it has any clinical significance because the same implant most likely could have addequate

stability at day one to be immediately loaded. With immediate load implants, if we overload them, the failure will appear in the first week from my experience. Maybe this means that the type of animal studies being conducted to show less of a drop in stability at 3 weeks was never the type of bone that one would clinically use for immediate loading. I do beleive that Straumann is far more concerned about credible research than Nobel but when the purpose of the research is to support the sale of a more expensive implant surface, it must be looked at critically and also from a practical standpoint - have they proven any clinical advantage or is the research just more marketing hype.

Posted by: Jerry Niznick | May 5, 2006 09:21 AM

I give credit to Straumann for bringing a product to market that actually has some research, not marketing, behind it. I assume with research there is cost. If the product can increase osseointegration rates and provide a better treatment, its worth the cost.

Posted by: Anonymous | May 5, 2006 11:57 AM

Another anonymous posting, probably from a Straumann employee or paid opinion leader. Implant companies must differentiate their products, especially if they are demanding premium prices. Product development and supporting research deserve praise when the research proves that the product does, "provide a better treatment." The operative word in your email is "If." A few animal studies and some clever marketing claims may influence some dentists to pay more for a product, but that does not make it "worth the cost."

Posted by: Jerry Niznick | May 6, 2006 09:14 PM

As an end user and not a researcher this discussion is frustrating. I agree with Jerry's asking for more info and certainly would like to see under the shroud of anonymous. I will however do my best to look up the references on Straumann's studies that these claims are based on.

Posted by: Paul Feuerstein, DMD | May 7, 2006 05:59 PM

Under the principal parameter in the world to measure a doctor...(money)...dr. Niznick is the most incident and relevant person.We ALL look for the same!!!!!!.
As clinicia I do need research behind products to place them.Unfortunately Straumann research in that fiels are ongoing studies, that is why they are not talking to loud.I remember when Straumann people claimed Lazzara a remark"*Research on file" when they came out with Osseotite and

Straumann have had long evidence on SLA surface at that time....It is a game and probably dr. Niznick will be the winner again. We need to learn more from successfully people and not from hired or paid doctors from companies!

Albert

Posted by: Albert Hall | May 7, 2006 11:35 PM

ANSWER TO QUESTION POSTED BY JOHN, May 3, 2006.

How does the new SLA Active surface compare with the Astra Tech Fluoride modified surface? Which is better?

ANSWER: You could add to this question, Nobel Biocare's TiUnite and Friadent/Plus Surfaces, all four companies claiming faster osseointegration, and never come up with the answer of which is best because with >95% success with all rough surfaced, titanium screw implants dental implants, it would be impossible to devise a clinical study to prove a statistically significant difference. Four other companies also provide a rough surface but do not make claims of superiority, relying on other factors or features to differentiate their products. Zimmer (MTX -Micro-Texture), Lifecore (RBM), BioHorizons (RBM - Resorbable Blast Media) and Implant Direct (SBM - Soluble Blast media) all use a rough surface created by blasting with soluble HA particles. This is the same surface, used on the Paragon Implants throughout the 1990's. I selected it again because of its long-time, proven clinical success. Also, unlike Straumann's SLA/SLActive, Friadent/Plus or Astra's OsseoSpeed, SBM does not require a secondary acid etching process to remove Aluminum Oxide or Titanium Oxide blasting particles, and therefore avoids additional rounding of the threads and cutting grooves. Implant Innovations' Osseotite surface is the only one using acid etching alone to modify the machined surface of the implant, and that results in a surface that is relatively smooth compared to all the others, when measuring peak-to-valley surface irregularities.

TiUnite, an anodizing process developed in Germany long before Nobel claimed it invented it (I think Nobel paid a license fee), consists of tubular projections with smooth areas in between. There is no proof, or even any reason to think this would be any better than an even rough texture created by blast particles. Nobel now extends this surface into the soft tissue area, claiming that the rough surface improves "soft tissue integration." There is a lot of controversy (see published ML reports on "Controversies" section of Implant Direct's web site) created by Drs. Albrektsson and

Sennerby from Gothenburg University, claiming excessive bone loss with Nobel's one-piece Nobel Direct implants, some of which have an extended rough surface. This is a good example of where the marketing got ahead of the research.

And then to round out the surface discussion, lets not forget the Branemark Machined Surface, which Nobel and Branemark patented in 1979. The Patent was eventually declared invalid by fraud on the US Patent Office, but only after Nobel sued a number of implant companies. Nobel ended up paying 3i $10M for anti-trust violations for pursuing a fraudulent patent. Any claims today of surface superiority by Nobel or any of the other major implant companies should be viewed in relationship to all the false claims of superiority that were associated with the Branemark "unique" machined surface that was considered the "gold standard" by some, only to find out that such a smooth surface had about a 10% higher failure rate in soft bone than rougher surfaces.

A discussion of implant surfaces can not ignore HA Coating which proved to be significantly better in the VA studies of 2900 Paragon Implants when compared to acid etch surfaces. If that multi-center comparative study had used blasted surface vs an etched surface to compare to HA coated surfaces, the differences in clinical success would have been less dramatic if at all, but that research remains to be done. HA coating may be the only Osseo conductive rough surface. It is available today on the ScrewPlant (Implant Direct), Screw-Vent (Zimmer), Replace (Nobel Biocare) and very few other implants.

Last and probably least is Innova's Beaded surface, which like the obsolete TPS surfaces of Friadent and Straumann, can be a soft tissue problem if it becomes exposed to the oral environment.

THE REAL ANSWER: Price, Prosthetics and Practicality are far better factors to differentiate implants than surface claims of the manufacturers.

Posted by: Jerry Niznick | May 8, 2006 01:11 PM

In Toronto, Dr. Cochrane, on behalf of Straumann, showed multiple studies of SLA vs. SLActive. The end result suggested you could load the implant 2 weeks earlier. As a periodontist, and I will stay anonymous, I would not suggest to my referral base to do this simply because 2 weeks really would not make a difference in the long run. I see no value in changing my treatment plan that has worked for me quite well. There is something to be said about conservatism.

Posted by: Anonymous | May 8, 2006 04:13 PM

With Wilson, a Tx Periodontist reporting at the AO Seattle meeting, 98% success with SLA (old surface) ITI implants placed in extraction sockets and loaded immediately, was Cochrane suggesting that with SLActive, you could load the ITI implants two weeks earlier than the day of surgery.... now you see how ludicrous his claim would be. Nobel played on this at the AO meeting in Seatle. At their booth, and as you entered the convention center, they had large, back-lit charts showing ITI's claims of loading the implant at 6-8 weeks with SLA surfce, and 3-4 weeks with SLActive surface, compared to Nobel's implants on the chart showing loading in 0 weeks. i.e. immediate loading like so many other implants today with FDA approval to claim immediate load.

Posted by: Jerry Niznick | May 9, 2006 01:28 AM