Jerome Smith, DDS

Understanding the psychological value of dental implants

Treatment option can be mutually beneficial for both dentists and their patients

About six years ago, Carolyn, one of my patients, came in for a prosthetic adjustment. Smiling, she handed me a photograph of her and her sister on a raft surrounded by white water on the Colorado river, "You know," she said, "I never would have gone on this trip if I hadn't had those implants done. I would have been too scared of losing one or both of my dentures on a trip like that!"

Carolyn, now in her mid-50s, has experienced a lot of embarrassment and ridicule since having all her teeth removed while in her teens. She said, "When I was 17 years old, our dentist told my mother my teeth were chalky and there was nothing else he could do for me other than to extract all of them and give me upper and lower false teeth." During her senior year of high school, she overheard one of her male classmates tell a buddy, "I'd never kiss Carolyn. She had all of her teeth pulled and wears those false teeth like my just like my grandmother." Some forty years later she recounts those cruel words that certainly must have felt like a kick in the abdomen to such a young and impressionable girl.

Carolyn's implant treatment was quite difficult and extremely challenging. A severely atrophic mandible and maxilla made her a less than ideal candidate for conventional root form implants. CT scan generated subperiosteal implants were utilized in her reconstruction along with removable bar retained overdentures. In spite of a few problems over the years with her case, she has maintained excellent home care, her implants continue to be successful going on 12 years now, and her enthusiasm and gratitude have never wavered one bit. She vividly remembers what life with mobile dentures was like and appreciates being able to go to a restaurant and order whatever she likes rather than whatever she can 'handle' without being uncomfortable, self-conscious and/or awkward.

So why am I sharing this 'endearing' story? Because I believe dental professionals like us really don't fully comprehend how psychologically devastating it can be to be edentulous. I believe it is the 'human condition' we cannot truly appreciate what we have until we lose it, whether it be our eyesight, our hearing, a limb, our parents, a child or our teeth. The pain edentulous patients sustain is not just emotional–real physical trauma is often involved. Have you ever run a 10K race or marathon with a blister on the insole of your foot you can feel every single step of the race? Now try to imagine how uncomfortable and frustrating this would be for those sensitive highly innervated oral tissues that were never designed to support a plastic denture in the first place. As these patients continue to age, the situation only gets worse due to continued alveolar atrophy until the teeth wind up in a jar most of the time when they are not being lined with heaps of Fasteeth, Seabond or other commercially available archaic solutions to ease this seemingly hopeless situation.

There are thousands of stories like Carolyn's where the miracle of implant dentistry has been a permanent solution. Although medical technology is considered extremely advanced in the U.S., problems such as loss of sight, hearing, nerve function or the loss of a leg do not have any new solutions. In dentistry however, we have the ability to restore nature's original designs in terms of function and appearance. Back in the 1940s, Dr. James Nix writes in *A Surgeon Recollects*, "The dentist not only deals with sound teeth, but with sound health. He contributes not only to the beauty, but also to the happiness of man. Hand in hand with the physician he mitigates and heals the afflictions of our race."

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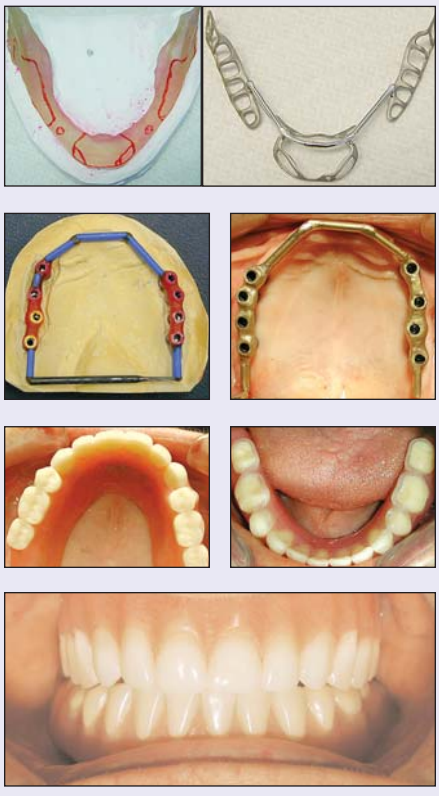
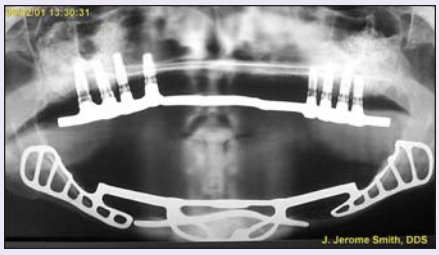
Carolyn's Implant Case

She had a lower CT Scan done to create a CT model onto which a subperiosteal implant was made and was surgically inserted to stabilize her lower prosthesis. In the upper arch she had bilaterial sinus bone grafts done prior to insertion of eight root form implants subsequently restored with a precision Gold Dolder Bar and palateless implant retained upper prosthesis.



Upper and lower implant supported dolder clip retained removable dentures



Post-operative panoramic radiograph

Why I learned to place implants

After referring several patients for implant consultation back in the early 1980s, I became frustrated with the lack of patient acceptance for this great treatment option. I met several general dentists who were members of the infamous Alabama Implant Study Group and the American Academy of Implant Dentistry and was very impressed with their presentations and in-depth knowledge of all aspects of implant dentistry. Fellow GPs like Drs. Carl Misch, Ed Mills (current president of the AAID), Ken Judy, Hilt Tatum, Ralph Roberts as well as oral surgeons Mike Pikos, Joel Rosenlicht, Dennis Smiler and many others were definitely practicing dentistry on another level from what I'd been exposed to in my few years as a general dentist.

Overcoming the 'learning curve'

I got plenty of knowledge, training and guidance from a very special oral surgeon by the name of Dr. Tom Golec from California who died of a brain tumor several years ago. He prompted me to "take the bull by the horns" and looking back some 17 years later, I'm thankful for Tom's strong encouragement.

Fortunately, the availability of adequate implant surgical and restorative training for GPs in the field of implant dentistry has improved greatly since I first became involved. However, like a lot of aspects of dentistry in general, there is much more to this multi-faceted tooth replacement science than first meets the eye.

There are many factors that directly effect the success of implants. Success as well as failure rates are directly related to the patient's overall health, the quality and quantity of available bone, the patient's occlusion and parafunction. In addition, a dentist's "working knowledge" of the specific implant system he/she is using, as well as surgical skills, anatomic knowledge, appropriate case design and the final restorations (as well as the patient's ability to maintain them) also factor in here. I found out early on that accurate complete sets of radiographs, thorough patient medical histories, diagnostic models, CT scans when indicated and methodic intricate step-by-step planning were all essential.

Digital photography–an essential tool

Effective patient communication is also very key to a patient's understanding of implant treatment options, increased value for these services and ultimately case acceptance. For the past seven years I have used digital photography, combined with computer imaging, to create visual simulations of treatment options and their results for my patients to use in making their treatment decisions. In addition, being able to show patients the various treatment options available for their particular case from a database of other cases I have completed has been extremely valuable. I've personally found this to be the most effective way in helping patients understand the entire restorative process, unmatched by other methods of education.

Restoring dignity and life with implants

One of my most fulfilling cases was a patient who had endured the wrongful removal of both upper and lower molars, along with his bicuspids (Photos 1-4). The teeth were being removed due to terminal periodontal disease.

The patient's dentist at the time, took upper and lower impressions and sent his case to the local dental lab for fabrication of upper and lower immediate provisional partial dentures. Apparently an error was made by either the dentist or technician and full upper and lower immediate dentures were fabricated and dropped off at the oral surgeon's office. After the patient was sedated, the oral surgeon observed the complete set of full dentures and promptly removed all of the patient's teeth. When fully awake at home, he realized the error, but just shrugged his shoulders and resolved that he would learn to get used to them.

Unfortunately, that wasn't very feasible because he had such an abundance of bone in both arches, it was almost impossible to keep the dentures in his mouth. His dentist, riddled with guilt over the situation, tried to make the patient comfortable but never was able to provide this patient with a comfortable solution. The dentist referred the patient to a prominent removable prosthodontist who also was also unable to provide the patient with a set of dentures that would stay comfortably in his mouth. Even after full-mouth alveolectomies and alveoplasties were performed along with new dentures, he was still miserable.

When the patient came to my office, approximately five years and six sets of dentures later, he told me that he couldn't wait to get home everyday from work so he could take his teeth out. He admitted that sometimes at work, he'd just take them out, stick them in his desk drawer and go without them. Psychologically, the patient was also paying for the mistake made years before. The patient, a tall, slender man in his mid fifties was an avid tennis player before the full-mouth extraction. As a result of his physical pain and low self-esteem, he quit dating, stopped playing tennis, became extremely depressed and became a total recluse by his own admission.

He agreed to a treatment plan of eight implants placed in the maxilla and six in the mandible. The upper was restored with fixed/cemented porcelain-fused-to-metal

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Photo 1

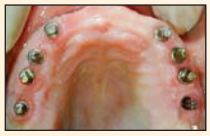
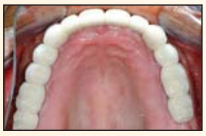


Photo 2



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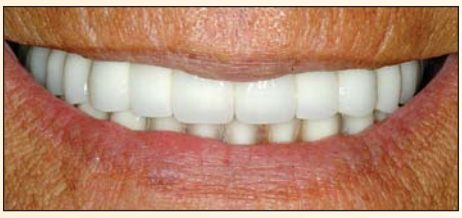

Photo 4

Photo 1: Post op panoramic of case just after surgery

Photo 2: After insertion of abutments prior to final impression

Photo 3: After insertion of fixed 12 porcelain to gold splint

Photo 4: Final smile after case completion

bridgework. The lower was restored with a removable snap retained overdenture (to help keep costs down) and the patient emerged from his secluded lifestyle to become his old self again. The patient told me he had roughly calculated his five year nightmare had cost over a hundred thousand dollars in terms of accumulated dental fees, time missed from work and visits to clinical psychologists.

The 'real effects' of being edentulous

Carl Misch, DDS, author of *Contemporary Implant Dentistry*, writes bone only forms because of teeth but bone also needs stimulation to be maintained. It has to undergo strain or else it will be lost. Teeth transmit compressive and tensile forces to surrounding bone and it is this stimulation that is required to maintain its form and density. When we remove a patient's teeth, 25% of the bone width is lost within the first year and there is an average of 4mm decrease in height. A whopping 60% is lost within the first 3-5 years. Continual bone loss cannot be stopped using traditional methods and this loss will continue until the denture no longer fits.

Often the patient doesn't realize the extent of loss until it's too late. This realization may occur in the form of discomfort in function due to impingement of a lower denture on dehiscent mental nerves, parasthesia or a pathologic jaw fracture. More often than not, typical consequences of edentulism include the following:

- Decrease in facial height ultimately yielding a prognathic appearance.
- Decrease in the horizontal labial angle.
- Thinning of the lips.
- Loss of tone of muscles of facial expression.
- Increased depth of associated vertical lines.
- Increased length of the maxillary lip.
- Ptosis of muscles. (E.g. jowels, witches chin)
- Loss of function with resultant dietary changes and potential digestive system compromise.
- Loss of self-confidence, despondency, depression, hopelessness.
- Loss of vertical dimension over time with resultant potential TMJ symptoms in some cases, angular cheilosis, or "sunken face."

If dental implants are placed either at the time of tooth removal or soon thereafter, benefits include:

1. Bone maintenance.
2. Ideal esthetic tooth positioning.
3. Correct occlusion.
4. Improved psychological health.
5. Regained occlusal awareness.
6. Increased stability.
7. Increased retention.
8. Increased phonetics.
9. Increased bite force.
10. Increased rate of successes of prosthetic options.
11. Elimination of reliance on adjacent teeth for prosthetic tooth replacement options.

A recent poll, conducted on the DentalTown.com website on Dental Implants, generated some very interesting, yet troublesome statistics on the most common reason for implant placement:

- **4%** for replacement of congenitally missing teeth
- **11%** for failed root canals
- **ONLY 20%** for increased denture retention
- **1%** as a result of a traumatic injury
- **64%** to avoid bridgework

Although the survey did not poll on 'preservation of existing bone/prevention of future bone loss', it would have been very interesting to see the number of responses.

Dr. Misch states if we are to truly consider ourselves to be preventive dentists, then we must ask ourselves if we are giving enough concern to this reality for many of our patients.

Did you know 5% of dentists don't really think implants are the best treatment for their patients? But the saddest statistics indicate 37% of dentists do not want to go through the learning curve to properly place implants and a full 42% claim they are too busy doing other dentistry and don't care about learning implant placement.

In addition only a small percentage of dentists are employing socket preservation for future implant placement at the time of extractions!

For those who are 'too busy' to learn proper techniques for implant placement, I want to pose this question: Can you imagine taking your son, daughter or wife to a physician for cancer treatment and not being offered state-of-the-art treatment because the doc didn't want to 'go through a learning curve' or was 'too busy' providing more familiar forms of cancer care? You could call this negligence, laziness, or apathy, but I assure you that you couldn't call it the best treatment option for the patient.

We all need to be more actively involved in this revolutionary treatment modality for patients who are either missing teeth or are going to lose a tooth or teeth if we are truly interested in the best treatment for our patients. Implants for tooth or teeth replacement is optimal treatment for patients today and the data supports this statement. Especially when one reviews the consequences of long-term edentulism or the data on long-term success rates of fixed bridgework does this modern form of tooth replacement becomes even more favorable. Dental implants strongly outperform fixed tooth supported cemented bridgework and the data supports this consistently. The fact that 11% of dentists polled on the DentalTown survey would have a three-unit bridge done on themselves if they had to lose tooth #19 where #18 and #20 were virgin teeth is troublesome. Considering all of the inherent problems associated with fixed bridges, it's very difficult to imagine an educated dentist choosing this option in that light. The truth of the matter is the data consistently shows at least one out of four bridges will be lost before 15 years in function. As you know, often failures are disastrous (i.e. bridge abutment requires extraction due to extreme decay or fracture) and patients often become quite alarmed, despondent, angry or resigned. A VA study showed 3% loss at five years, 13% loss at 10 years, and a whopping 30% loss at 14 years.

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It is common knowledge not every patient is a candidate for implant dentistry. Systemic factors, tobacco use, alcoholism, immune system compromise are among some of the factors that must be addressed when considering the implant solution as an option for our patients. Additional factors such as the condition of the rest of the dentition if they still have their teeth, the occlusion, parafunction, amount of available bone, patient expectations, possible esthetic compromise, patient dexterity, commitment to oral hygiene and regular followup must be considered. In addition, affordability certainly is an important issue as well and among our challenges is making this more affordable for patients who are not among the wealthy. Many alternatives now exist that cover everything from creative financing, to phased/staged treatment, to the more recent use of the new mini-implant systems which have emerged as a simpler and less costly solution to more conventional and higher-priced implant treatment delivery. These progressive options are truly providing a breakthrough for dentistry as well as for all of the patients who have been treated successfully.

Continuing education is vital

Even though implant dentistry has evolved to become a very viable treatment it is not without its challenges. Among the challenges is the simple understanding and mastery of everything from proper patient evaluation, education, dealing with patient expectations, to the skillful implementation of the steps involved in the numerous applications of dental implants for the successful restorations of simple to complex edentulism. In addition, further challenges exist in making implant dentistry affordable for the masses rather than just for the wealthy so we can truly serve our fellow man with a long awaited solution to a problem that has plagued mankind for centuries. Also, necessary is the experience and skill required for successful troubleshooting and maintenance of these cases in the years to come.

There is no question the latest trends in cosmetic dentistry have dominated our continuing education curriculums, dental journals and most recently our television airwaves. To see a cosmetic dental patient on the show, *Extreme Makeover*, stare into a mirror with a look of emotionally-charged disbelief and utter amazement as she admires her new ceramic smile, is truly a wonderful breakthrough for our profession. I'm sure you've witnessed the joy as these makeover 'winners' hug the renowned Atlanta dentist in gratitude for their meticulously executed cosmetic smile makeover that in combination with their breast augmentation, liposuction and new hairdo has finally provided them with a sense of renewed confidence and self-satisfaction.

I promise you though, in a quieter, less glamorous corner of our country truly grateful and just as amazingly transformed patients, who now have fixed teeth or stable removable appliances, are exiting dental offices leaving behind a lifetime of embarrassment. Although these implant makeovers may not be as well-known, they represent a significant victory for both the patients and the dentists who placed the implants.

From years of personal experience, I can tell you these 'quiet victories' contribute not only to my success but my own personal sense of accomplishment. It gives my dentistry so much value to know I'm helping to restore dignity and help provide a new start on life for those I touch.

I am very thankful for those early day implant pioneers who endured the ridicule, "slings and arrows" of their judgmental and condescending peers. I believe we all owe them a debt of gratitude, for without their persistence, refusal to acquiesce, and single-mindedness, the miracle of dental implants would have never come to fruition.

Continuing Education Sources

There is so much continuing education available it is often difficult to discern what is really going to give you the "best bang for the buck" and make the most effective use of limited C.E. time. One source I highly recommend is to visit the message board forum on Implantology at DentalTown (www.dentaltown.com). There you will find dentists who have already taken the courses and will be happy to provide you with an evaluation.

There are manufacturer-sponsored courses which are quite economical (and understandably so). One example of a company sponsored CE event is the Advanced MDI Seminar given by IMTEC (the next one is Aug.15 & 16 in Dallas, TX), call 1-800-879-9799 or visit www.imtec.com or more information. There are also Implant Continuums such as the Misch Implant Institute, the Maxicourse at Medical College of Georgia, given by a number of renown implantologists, and the MaxiCourse in New York City given by Drs. Norman Crainin and Dennis Tarnow.

Other available university based training programs are listed at: http://www.dentalimplants.com/implantcourses/university.shtml

Private courses often include "live surgeries" and a listing of them can be found at: http://www.dentalimplants.com/implantcourses/privatecourses.shtml

In addition, belonging to the American Academy of Implant Dentistry: http://www.aaid-implant.org as well as the International Congress of Oral Implantology: http://www.dentalimplants.com/implantcourses

All of these programs afforded me the opportunity to meet dentists who have a passion for dental implantology as well as providing a genuine wealth of practical information and experience.

Dr. Jerome Smith, a native of Lafayette, is a graduate of the University of Louisiana at Lafayette and the LSU School of Dentistry. He has maintained a private general dentistry practice in Lafayette with an emphasis on implants for the past 22 years.

Jerome has worked with numerous dentists and specialists throughout Louisiana, and lectured on the subject of dental implantology throughout the United States.

He is the co-founder of the Mexico Dental Project and an active member of a number of dental organizations, including: ICOI, AGD, and ASO.

He is married and has two daughters. You can contact him by email: jerome@jeromesmithdds.com or by phone at: (337) 235-1523.