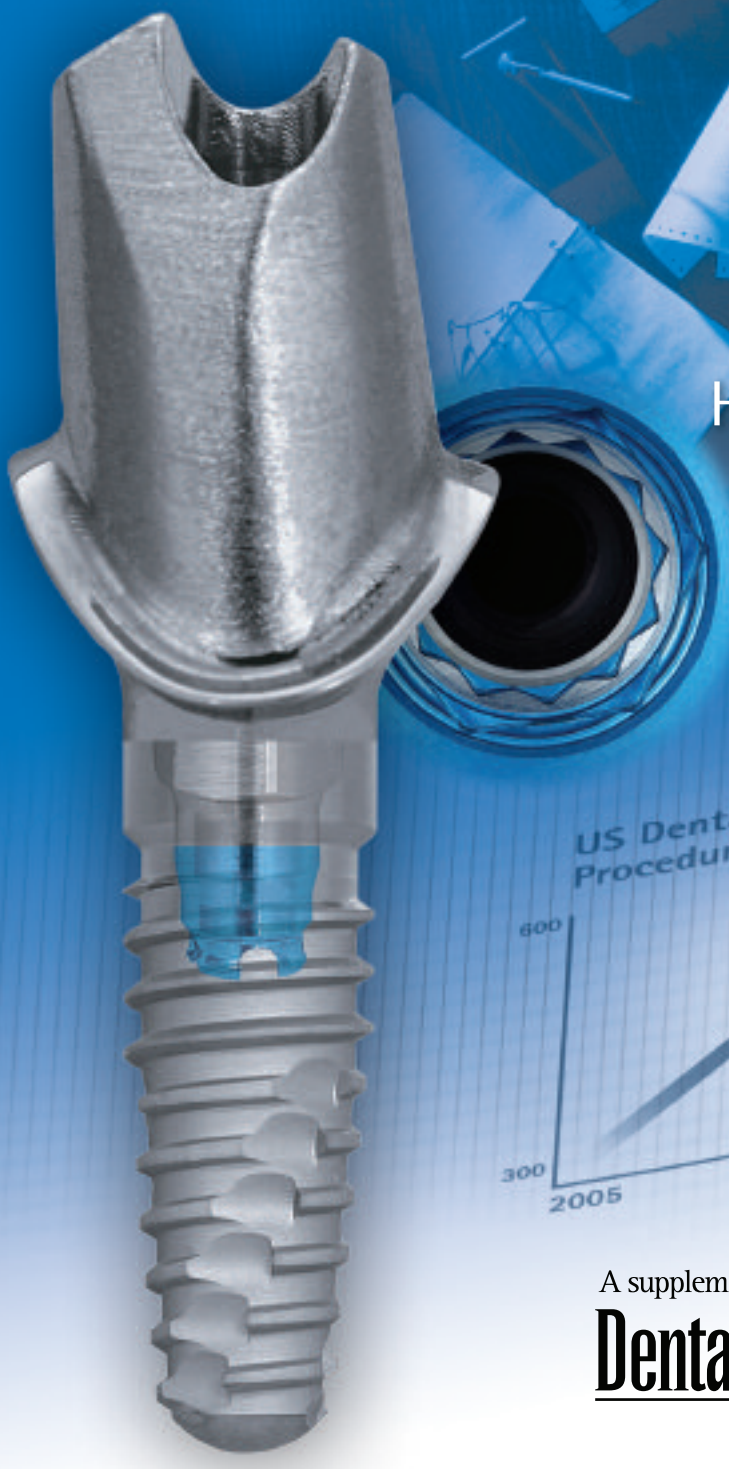
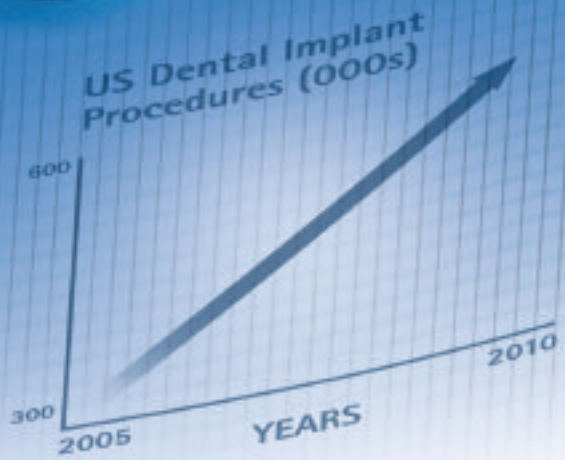
# IMPLANT ECONOMICS



## How to thrive in dentistry's most rewarding restorative field

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# IMPLANT ECONOMICS

## How to thrive in dentistry's most rewarding restorative field.

Restoring implants represents one of the profession's largest growth markets, with potential candidates in the tens of millions. Yet the number of dental implants actually placed and restored remains remarkably low.

Part of the problem may be a distinct lack of information on the subject. Specifically, outside of tightly focused clinical articles and government studies, little has been published on the economics and logistics of how to excel in serving this market.

*This special supplement is intended to help general practitioners assess the role implant restorative dentistry could play in their professional lives. To provide you with a sound starting point, we've analyzed the numbers, reviewed the key steps to success and obtained insights from clinicians who have turned this area of care into a thriving cornerstone of their practice. In addition, we'll take a look at some of the tools they have used to make this happen.*

> There is simply no need to prepare virgin teeth to do bridgework today when implants are so successful.
>
> —Robert Lowe, DDS

Implant dentistry has more than two decades of documented clinical success behind it and offers many economic and clinical advantages over other restorative options. And clinicians who excel in this field as well as consumers have taken notice.

In fact, a 2003 *Dental Products Report* survey found that 80 percent of responding general dentists reported a rise in patient inquiries about dental implants over the past two years. Yet despite growing public interest, by all accounts crown and bridge procedures and dentures continue to dwarf implants in market size.

A Millennium Research Group study in 2003 hammered home this point. The report noted that fewer than 2 million implants have been placed since the early 1980s. This represents less than 2 percent market penetration.

Furthermore, the U.S. Department of Health reports that nearly ten percent of Americans 18 or older are missing one or more teeth and just under one in three people older than age 65 falls into this category.

Even though there has been progress in reducing tooth loss (a ten percent decline in each of the last three decades), this market is expected to keep growing until 2020. That's according to a study published in 2002 in the *Journal of Prosthetic Dentistry* (Vol. 87: 5-8). The reason, say the study's authors: an expected 79 percent jump in the senior population by 2020.

Dr. George Priest, a prosthodontist in Atlanta, Ga., who has restored more than 3,600 implants since 1985, believes financial misconceptions held by patients and practitioners are behind much of the disconnect on this issue, particularly when it comes to single-tooth replacement.

"Many dentists think patients missing a single tooth will be reluctant to accept the higher initial fee associated with an implant versus a three-unit, fixed-partial denture," Priest says. "Many dentists also believe that implant dentistry is not profitable."

These factors help explain why implants may well be underutilized as a treatment option. Consider that a 2003 *Dental Products Report* survey found that nearly six in ten responding GPs (58.3 percent) restored an average of less than one implant per month (despite the fact that more than 94 percent of the respondents indicated they offer this service).

To capitalize on the opportunity restoring implants presents to better serve patients, experts believe general

practitioners should take four action steps:

- Understand the opportunity in the market
- Learn the value proposition that implants offer patients and your practice
- Establish a strong referral relationship and select cases carefully
- Seek continuing education for you and your staff

## Understand the opportunity

First, let's look at the market. Priest says the pool of potential implant candidates falls into two primary categories: The first group is comprised of patients age 35 and older who are missing teeth and obtain implants after the failure of conventional dental procedures. The second group is comprised of patients younger than 35 who are losing teeth to trauma or have congenitally missing teeth.

"General practitioners are seeing many more congenitally missing teeth in part because orthodontists, now convinced of the value of implant dentistry, are retaining the lateral spaces instead of closing them with the canines," Priest explains.

In addition, many elderly patients missing most or all of their teeth in a given arch are beginning to request implants or implant-supported dentures. General dentists who don't offer this treatment option to their patients will find themselves at a disadvantage in a number of ways compared to their colleagues who do.

Dr. Robert Lowe, a Charlotte, N.C., general dentist who teaches at the Nash Institute for Dental Learning and restores implants, notes that GPs need to carefully consider the needs of patients with missing teeth and routinely include implants in their treatment plans and case presentations.

"I treatment plan implants where I feel they will be the most successful, and I'm not afraid to use them in the anterior," Lowe says. "My guidelines are pretty straightforward. When I have a patient who is missing teeth, implants are often my first option if the adjacent teeth haven't been restored and if there is a quality and quantity of bone and gingival tissue."

## Understand the value proposition

To realize the opportunities implant dentistry presents, experts believe both clinicians and patients will have to more closely examine the value proposition implants offer. From the patient's perspective, aside from restoring function and improving aesthetics, *implants can offer more significant long-term savings than conventional dental treatment, especially for single-tooth replacement in younger patients.*

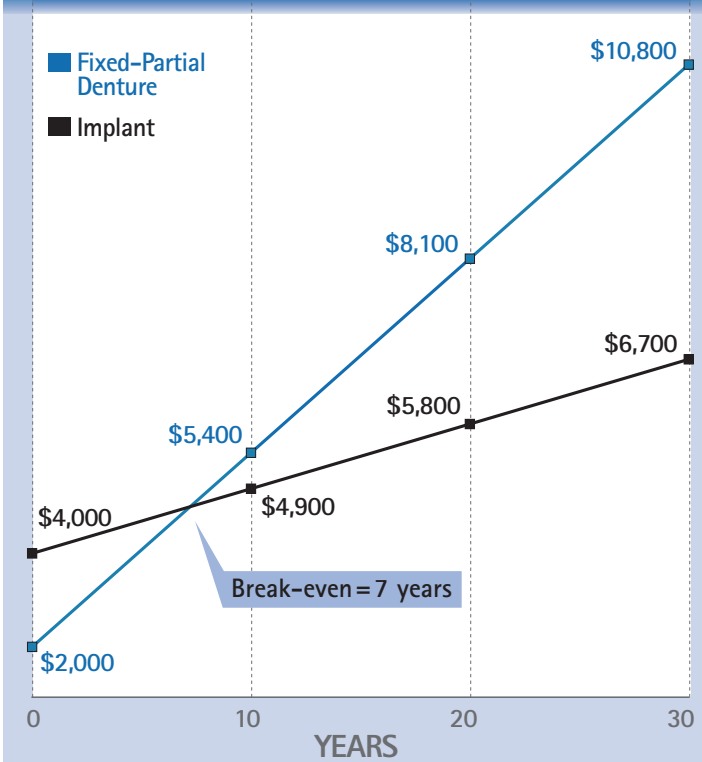
Priest encourages dental teams to offer patients a direct comparison of a single-tooth implant vs. a three-unit, fixed-partial denture. He calculates that a single-tooth implant may initially cost the patient $700 to $1,000 more than the fixed-partial denture, but this cost differential will be equalized in about seven years. (See table below.)

It is important to note that cost is not the single most important consideration of treatment to a patient. In order for a patient to understand the total value of the recommended treatment, they must understand how the presented treatment benefits their long-term health and well-being. According to consumer research conducted by the Institute for Dental Implant Awareness, most respondents felt strongly that they should be provided with complete information about the advantages and disadvantages of their treatment options for missing teeth. Respondents were most concerned about the preparation of abutment teeth and bone resorption.

"A young patient replacing a single missing tooth with

### Patient cost for single-tooth replacements

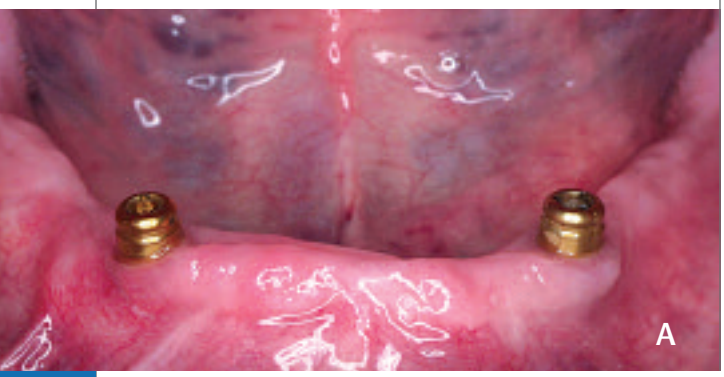
The cost differential between a single-tooth implant and a fixed-partial denture is equalized in about seven years.



a three-unit bridge is likely to receive three or more prostheses over a lifetime, with recurrent caries and tooth fracture as major reasons for replacement," Priest explains. "Successive prostheses may inflict further biologic complications, further increasing the cumulative patient costs."

On the other hand, prosthetic failures on single-tooth implant replacements are relatively rare, Priest says, citing data from studies of single-tooth implants five to 15 years after placement that demonstrate success rates from 88 percent to 100 percent.

Better yet, says Lowe, implants are typically a more conservative option than a three-unit bridge for replacing a single tooth.



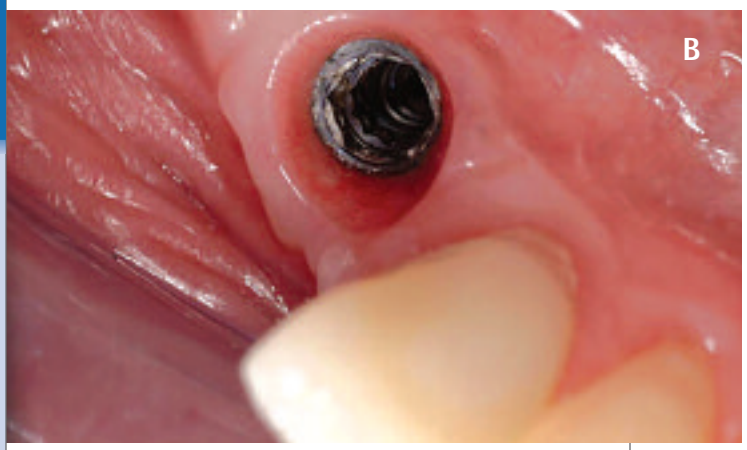




**Fig. A: The two-implant mandibular overdenture, shown here with Locator® Abutments, available through 3i, is an ideal procedure for beginning GPs to perform. Fig. B: Restoring single-tooth implants with 3i's OSSEOTITE® Certain™ Implant System in the posterior region is another great place to begin.**

"When I consult with patients, I tell them today an implant can be the best choice for replacing a single missing tooth if there is sufficient bone and periodontium in the edentulous space and if the adjacent teeth are unrestored. There is simply no need to prepare virgin teeth to do bridgework today when implants are so successful," Lowe says.

Dr. Gary Morris, a Buffalo Grove, Ill., prosthodontist, argues that implants have become the standard of care in dentistry. "Our goal is to provide care that will give us the best possible clinical outcome with the least risk. The current scientific research is pointing to dental implants as the new standard of care, leaving our conventional techniques, in many cases, to be considered 'alternative treatment,'" Morris says. "Patients need the whole restorative community to start thinking that way."

## Focus on case selection

There is a way to do this—by introducing GPs to the clinical information, education programs and new technology now available that will assist them in getting started with implant dentistry.

The great news is that with proper case selection and a strong referral relationship with an experienced surgeon, the GP can manage the restorative end of implant cases profitably and typically in less time than more traditional treatment methods, notes Dr. Robert Blackwell, a general practitioner in Decatur, Ill.

Blackwell should know. He began building his implant skills early in his career, when root form implants were introduced to the U.S. in the early 1980s. Today, restoring implants accounts for about half of his practice production, with the majority of his implant cases involving single-tooth replacement. (For more on Dr. Blackwell's experiences, see "A GP's Success Story" on page 6.)

Blackwell's experience is a model for other GPs to follow, Priest notes. He says single-tooth implants and implants to stabilize mandibular dentures are among the most common and simplest cases for general dentists to restore.

"One of the easiest restorations is the two-implant mandibular overdenture. All general dentists should provide this service," Priest says. "These procedures, and restoring single-tooth implants in the posterior quadrants, are ideal restorations for GPs getting started in implant dentistry."

Technology advances are also simplifying the restorative phase of implant treatment, Morris says. He cites the example of the new Encode™ Restorative System (part of 3i's ARCHITECH PSR™ product line) as the latest example in this trend.

# A GP'S SUCCESS STORY

Dr. Robert Blackwell, a GP in Decatur, Ill., got in on the ground floor of implant dentistry's growth. While performing his residency at Michael Reese Hospital in Chicago back in the early 1980s, he learned about root-form implants. At the time, implant dentistry was in its infancy in the United States.

The early training he received from the residency program's director fueled an interest that would become a central focus in his Decatur, Ill., general practice. Today, restoring implants accounts for about half of Blackwell's personal production.

How did he get to this point? Primarily by building his clinical skills through continuing education and including his staff in this process. He helped form an interdisciplinary implant study club in his area, which included local oral surgeons, a periodontist and other interested general dentists. He also joined a couple of the leading implant dentistry organizations.

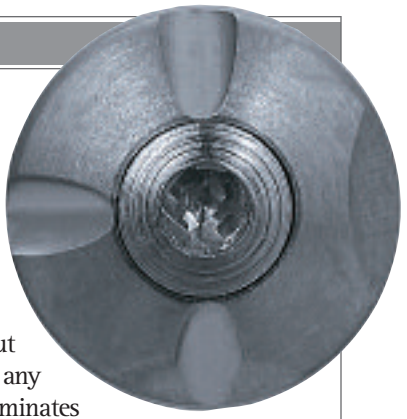
Throughout this journey, Blackwell noticed significant changes that have sparked his practice's growth in implant cases.

"When we started out, most people we were treating were totally edentulous. We were treating people who were unhappy with their lower denture. Only about 25 percent were single-tooth cases or partially edentulous patients," he recalls.

Robert Blackwell, *DDS*

This ratio has since reversed. Now, Blackwell's team spends much more time helping patients understand the relative merits of single-tooth implants vs. crown and bridge or partial denture procedures. The messages they share with patients tend to be pretty basic.

*Continued on page 7*



**Special codes on the Encode™ healing abutments from 3i eliminate the need for implant-level impressions.**

"Encode allows an impression of an implant to be made without removing any components, placing any copings or taking x-rays, so it eliminates the complexity of typical implant dentistry. In some instances the surgeon will place the abutment and the GP will be able to treat the case as if it were a crown and bridge procedure," Morris explains.

Priest says the Locator® Abutment (Zest Anchors, available through 3i) and 3i's new and upcoming CAM StructSURE™ Precision Milled Bars (part of 3i's ARCHITECH PSR™ product line) are other systems that simplify the restorative dentist's task in mandibular overdenture prostheses.

These and other advances are reducing the amount of chair time for restoring implants. Morris argues that restoring implants is easier, more efficient and significantly more profitable for a skilled general practitioner than crown and bridge dentistry. And he's not alone.

Priest has extensively documented his own experiences. He calculates that implant patients make up about 40 percent of his patients yet contribute about 60 percent of overall practice revenue. His lab costs are higher than might be found in a typical prosthodontic practice, but his overhead (49 percent) is in fact lower than most of his peers, yielding greater overall profitability.

A GP will typically invest significantly less time in restoring a single-tooth implant than a three-unit, fixed-partial denture, which typically requires two appointments and three hours of treatment time. A single-tooth implant likewise will require two appointments but total treatment time is reduced to an hour or less. (For more on how this is achieved, see "The Economics of Restoring Implants" on page 8.)

Priest, in fact, believes the single-tooth implant restoration is the most profitable procedure a restorative dentist can perform. He estimates an efficient and prepared general dentist's production rate for a single implant restoration is about $1,000 per hour, excluding laboratory and component costs, or roughly $300 per hour more profitable than a three-unit, fixed-partial denture.

## Seek continuing education

As with most areas of restorative dentistry, consistency and training are vital keys to success in implant restorative dentistry. The most successful practices, Morris says, thoroughly discuss implants as an option with all patients who are potential candidates. Moreover, dentists who lead these practices maximize their effectiveness by including staff members in their educational experience.

"My philosophy is that staff members have an equal role, if not

a more important role, in educating patients. I think there is a certain level of fear among patients when the dentist is talking to them and a certain level of trust when a staff member is talking to them," Morris says, adding that implant associations and manufacturers offer patient education tools to help answer patients' questions.

Priest adds that when teams take courses together they tend to be much more in sync in the ways they communicate and relate to patients. He recommends dentists set CE goals or educational requirements for staff and believes hygienists are "pivotal" in planting the seed for patients to consider implants.

Some manufacturers offer continuing education that considers the entire professional dental team, from laboratory technicians to staff as well as GPs and their surgical referrals. The affordable and value-laden educational opportunities range from locally available programs to symposiums that are offered throughout the year.

As far as clinical education is concerned, perhaps the best way for dentists to begin the process is to seek out a mentor.

"Find a mentor who has an established implant practice," Priest counsels. "Spend some time with this doctor, observe the restorative phase of treatment and ask questions."

Lowe credits a strong mentor relationship with a couple of colleagues who were experienced in implant dentistry with easing his own transition into the field. They walked him through his first case, restoring a maxillary bicuspid implant.

"Basically, I began restoring implants through the help of my referring specialists," Lowe recalls.

Other key guidelines these sources recommend to general practitioners include the following:

**Observe implant surgery:** This will help you understand the specifics of the treatment and help reinforce your commitment to the


**3i offers a comprehensive curriculum of courses for both clinicians and staff.**

*Continued from page 6*

"Over the years, we've come to learn that implant dentistry is the most predictable service that's offered, according to the scientific literature," Blackwell says. He's quick to point out to patients with recurring caries that implants don't decay.

While noting that general practitioners still need to invest in continuing education to excel in restoring implants, Blackwell says they can get started in the field for $1,000 or less when it comes to equipment.

"The great thing about implant dentistry from the restorative aspect is that you can build your inventory of components as you go. The only items that you need to begin with are some hand drivers of different shapes and a torque driver," Blackwell says.

What's the secret to Blackwell's success in building his restorative implant caseload?

"What really has pushed my practice as far as the number of implant procedures we do is getting my staff comfortable with what we do and making sure they understand what's going to happen when the patient goes to the surgeon's office," he says. "A lot of it is educating patients about short-term versus long-term value. Patients in their 20s or 30s will spend far less on implant therapy in the long run than on traditional crown and bridge."

Advances in implant components also have significantly enhanced Blackwell's productivity. He credits premanufactured abutments alone with cutting his production costs 25 percent.

These days Blackwell helps educate his general dentist colleagues about how to excel in this still-growing area of care. His primary message: The opportunity to grow has never been greater.

"If you look in your practice, every day there are patients who are unhappy with dentures and partials moving around and there are patients who have spaces from missing teeth. As you learn to restore implants, your growth will start slowly, but most general dentists who I have worked with see the number of implant cases they treat double every year. What you'll have is a tremendous avenue for growth into the future," he says.

# THE ECONOMICS OF RESTORING IMPLANTS

Many clinicians believe crown and bridge dentistry is one of the most profitable areas of their practice. But how does the profit margin on, say, a three-unit, fixed-partial denture compare with restoring a single-tooth implant?

Dr. George Priest, an Atlanta, Ga., prosthodontist and lecturer on dental implants, has analyzed this proposition and argues that the implant is the clear winner when all factors are considered.

"Dentists comparing the costs of these two options might mistakenly conclude that the three-unit, fixed-partial denture is more profitable, but this erroneous conclusion ignores productivity—the most significant factor affecting profitability," Priest says.

George F. Priest, *DMD*

Though both procedures require two appointments, Priest says actual doctor-time required for restoring a single-tooth implant is an hour or less vs. three hours for a three-unit, fixed-partial denture, assuming there are no complications.

The major time savings with the implant restoration can be traced to efficient protocol, Priest says, including performing most restorative procedures extraorally.

"Making impressions directly to the implant virtually eliminates anesthesia, tissue retraction and searching for elusive margins, all of which are required with traditional fixed prostheses," Priest says. "Simplifying these impressions using 3i's Encode™ Restorative System will make this very appealing to all GPs."

In addition, many procedures associated with implant restorations can be delegated. The clinical assistant can perform many procedures related to making impressions, for example. Abutment preparation can be delegated to the lab technician, who can prepare it much more efficiently and inexpensively than a dentist relying on intraoral techniques.

Based on a restorative dentist's profitability for a single-implant restoration and total appointment time of one hour, the production rate would be $1,500 per hour or $1,000 per hour, excluding lab fees and component costs. The net production rate for the implant would be about $300 an hour more than for the fixed-partial denture, Priest says.

Priest's economic analysis provides compelling evidence that the single-implant prosthesis may be the most profitable procedure a restorative dentist can perform.

> Dentists…might mistakenly conclude that the three-unit, fixed-partial denture is more profitable.

## Analyzing production revenue for single-tooth implants

The table below uses estimates to compare the production revenue for a single-tooth implant versus a three-unit, fixed-partial denture.

| Restorative procedure | Three-unit, fixed-partial denture | Single-tooth implant only | Single-tooth implant with interim RPD |
|---|---|---|---|
| Clinical fee | $2,700 | $1,500 | $1,900 |
| Less lab/component cost | –$600 | –$500 | –$650 |
| Net production | $2,100 | $1,000 | $1,250 |
| Clinical time | 3 hours | 1 hour | 1.5 hours |
| Production per hour | $2,700/3 = $900 | $1,500/1 = $1,500 | $1,900/1.5 = $1,267 |
| **Net production per hour** | **$2,100/3 = $700** | **$1,000/1 = $1,000** | **$1,250/1.5 = $833** |

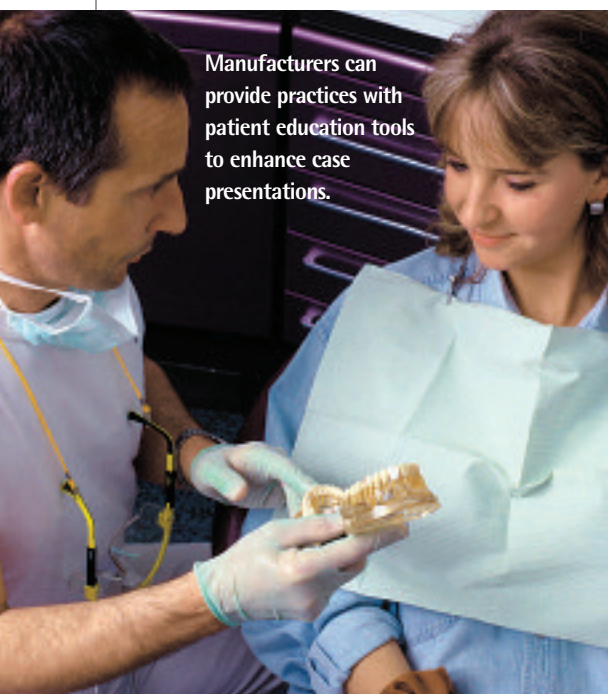
Source: Dr. George Priest

referral relationship. More importantly, this process will help you more fully appreciate that implant dentistry is a restorative-driven discipline.

**Utilize your implant sales representative:** They often are the first to hear about new techniques and components and can help you identify the components necessary for your restorations. In addition, because sales reps are focused exclusively on dental implants, they often have significant experience in a variety of restorations and can help you build relationships with others involved in implant education. For example, your implant representative can help find an appropriate study club where you can share dental experiences and learn more about the ins and outs of implant dentistry from specialists. They can also help you get started with the right tools to make restorative dentistry a simple reality.

**Visit a dental laboratory:** Establish a close working relationship with a technician who is experienced in implant restoration. Lowe encourages GPs to spend a day with their technician to gain new perspectives on treatment alternatives. Technicians also can be particularly helpful to less experienced clinicians when it comes to understanding the costs of service when setting fees, Morris says.

**Join an implant organization and/or study club:** Consider joining an interdisciplinary study group or groups such as the Academy of Osseointegration *(www.osseo.org)*, the American Academy of Implant Dentistry *(www.aaid-implant.cnchost.com)*



Manufacturers can provide practices with patient education tools to enhance case presentations.

## TAKE YOUR SKILL TO THE NEXT LEVEL

Education is no doubt the key to success in managing and leading an implant team, and there are many ways for general dentists to enjoy positive learning experiences that will help them build confidence and clinical efficiency. Dr. Robert Lowe, a GP in Charlotte, N.C., and clinical director at the Nash Institute for Dental Learning, took advantage of a wide variety of educational opportunities when he began restoring implants more than a decade ago.

Establishing a mentor relationship with two of his referring specialists helped Lowe select his first case and better understand the communication surgeons needed from him to optimally place an implant. Spending time with his lab technician helped him learn about the components he needed to complete cases efficiently.

Lowe recalls that the specialists worked with him from the presurgical steps through the restorative process.

"They extracted a fractured maxillary premolar and placed the implant and healing abutment. And when the patient was ready for impressions, they sent the patient to my office with the impression copings and laboratory components needed to complete the case. Having the surgeon hold your hand through the first case is a good way to start," Lowe says.

These days Lowe is a mentor to others, teaching restorative and cosmetic dentistry courses. He advises GPs entering the implant restoration field to work as closely as possible with the implant surgeon.

"I basically ask the surgeon to place an implant that is as close to the same diameter to the tooth that's being extracted or is missing," Lowe says. "I want to provide the direction, so we fabricate pre-operative wax-ups and use surgical stents to guide the surgeon in implant placement."

One of his keys to aesthetic success is instructing the surgeon to place the platform at least 2mm below tissue level and no farther than 2mm to the adjacent tooth. This is why the precise diameter is so crItical.

"Much of implant dentistry is basic and simple, but the direction has to come from the GP," Lowe says.

If you're looking for a mentor, Lowe advises attending a study club, working with one of your referring specialists or establishing a relationship with an educator whose teaching you respect.

"I think it's invaluable to have a mentor or someone you look up to who you can get information from. If you have a surgeon who's interested in implant dentistry, attend a course together. That's really the way to take your learning to the next level," Lowe says.

Robert A. Lowe, *DDS*

## Sources

**Robert Blackwell,** *DDS*
*Dr. Blackwell maintains a private practice of restorative dentistry in Decatur, Ill., of which 50% involves the restoration of dental implants. He is a Diplomate of the American Board of Oral Implantology, American Society of Osseointegration and International Congress of Oral Implantologists. He is also a fellow member of the International Congress of Oral Implantologists and Academy of General Dentistry.*

**Robert A. Lowe,** *DDS*
*Dr. Lowe lectures internationally on restorative and aesthetic dentistry and has published many articles in dental journals on these topics. He joined the aesthetic practice of Dr. Ross W. Nash in Charlotte, N.C., in 2000. Dr. Lowe holds fellowships in the Academy of General Dentistry, International College of Dentists, the Academy of Dentistry International and the American College of Dentists.*

**Gary A. Morris,** *DDS*
*Dr. Morris has lectured extensively internationally on implant prosthodontics and other implant topics. He maintains a private practice limited to prosthodontics and restorative dentistry in Buffalo Grove, Ill. He is a member of the American College of Prosthodontics, International College of Prosthodontics, Academy of Osseointegration, and the International Congress of Oral Implantology.*

**George F. Priest,** *DMD*
*Dr. Priest lectures internationally while maintaining a full-time prosthodontic practice in Atlanta, Ga., devoted to aesthetic, advanced restorative and implant dentistry. He is a regular contributor to the literature in notable prosthodontic and implant journals. He is a Diplomate of the American Board of Prosthodontics, a Fellow of the American College of Prosthodontists and a member of Omicron Kappa Upsilon.*

or the International Congress of Oral Implantology *(www.dentalimplants.com)*. These groups are great resources and offer many learning opportunities. The groups' journals should be read regularly.

**Participate in a hands-on course or continuum of courses:** Courses like the Synergy Training Program (STP from 3i) will help you quickly increase your clinical skills and comfort level with components and you'll be exposed to many treatment plans in a short time. You'll also learn ways to better market your services.

**Programs such as 3i's Innovative Dental Seminars™ offer a variety of learning opportunities and help GPs form strong referral relationships.**

**Immerse yourself in implant dentistry:** As with any other aspect of dentistry, there is a learning curve with implants. Most dentists find this period shorter and less challenging than conventional forms of tooth replacement.

By undertaking the steps outlined in this supplement, you'll position yourself, your team and your practice for meeting the needs and desires of what is unquestionably one of dentistry's greatest growth markets. ■

**Important Note:** The information, costs and revenue projections listed in this article are based upon the individual experiences of the clinicians contributing to this article to help dentists compare procedures involving implants to other dental procedures. The information, costs and revenues obtained by other dentists may vary depending on individual experiences. Dentists should exercise independent judgment when determining the products and procedure to be used for their individual patients. This article and the entities preparing it do not guarantee any particular results or benefits and they disclaim any liability regarding whether the use of the information or products in this article will or will not achieve any particular result.

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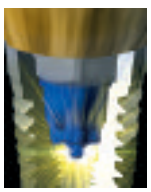

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