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IMPLANT INSTITUTE

NEWSLETTER

SEPTEMBER 2022 / Vol 16

Find Out How to Obtain your Fellowship or Mastership?

see page 9

DO PENICILLIN ALLERGIC PATIENTS TRULY HAVE A HIGHER IMPLANT FAILURE RATE?

Randolph R. Resnik DMD, MDS

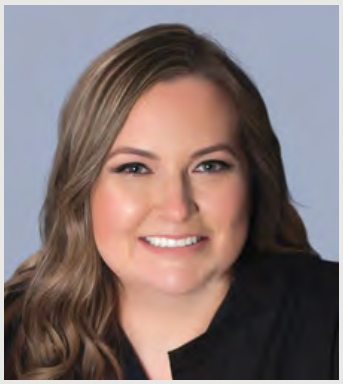
For years, dental implant failure has been a subject that has been mainly associated with various patient implant, surgical, and anatomic related factors. However, one etiologic factor for early implant failure that is often overlooked is patients presenting with a Penicillin allergy. Although the literature has reported these findings for years, the topic has been rarely addressed.

Why Do Penicillin Allergy Patients Have A Higher Failure Rate?

1. False Self Reporting of Penicillin Allergy

Penicillin antibiotics have been the most ideal and utilized prophylactic antibiotic in implant dentistry for years. This stems from the Penicillin family of antibiotics exhibiting broad spectrum coverage, being nontoxic, and having bactericidal action against most infection causing oral pathogens. Unfortunately, penicillin antibiotics are associated with many false representations and poorly reported studies over the years; (*cont'd page 3)*

FACULTY SPOTLIGHT



Dr. Amanda M. Sheehan

Dr. Amanda M. Sheehan has achieved her Diplomate from the American Board of Oral Implantology, making her the first and only female dentist in the state of Michigan to obtain the prestigious credential of Board Certification! The Diplomate designation awarded by the ABOI is the highest credential available for dental practitioners in the practice of oral implantology. In order to be eligible for ABOI Board Certification, one must be a DMD/DDS or equivalent, successfully complete a minimum of 670 verified hours of CE credits, or complete an approved hospital, university, or dental school Dr. Sheehan has dedicated countless hours to furthering her knowledge and skills throughout the years. She has earned more than 3,000 hours of continuing education, is among the two percent of dentists in North America that have achieved a Mastership in the Academy of General Dentistry, and is a recent recipient of the Lifelong Learning and Service Recognition from the AGD. Congratulations to Dr. Sheehan on such a significant and laudable accomplishment. We are so proud of her!

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Penicillin Allergy Implant Failure:

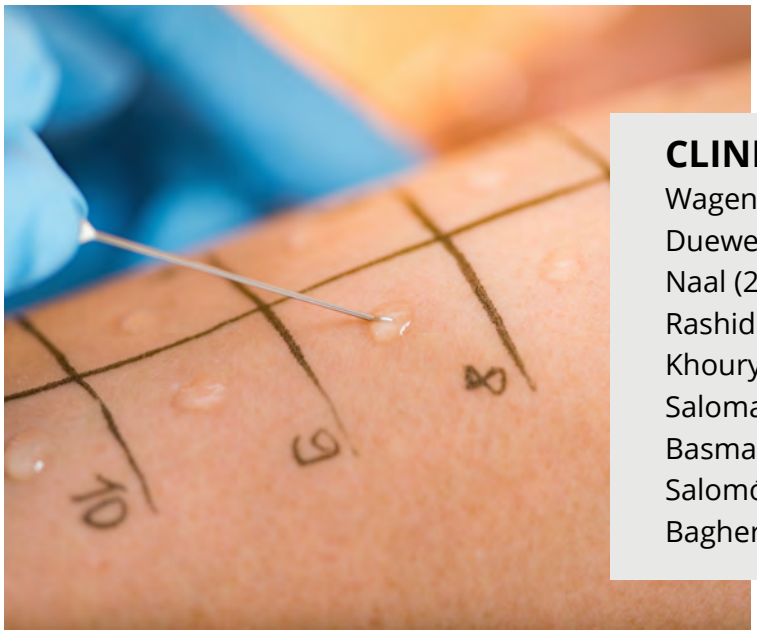
1. Wagenberg (2006) : 3-4 times failure rate
2. Noroozi (2015) : 3 times failure rate
3. French (2016) : 10 times failure rate
4. Bagheri (2022) : 2 times failure rate

a. Approximately **10%** of patients report a history of an allergy to a penicillin antibiotic. **90%** of these patients are not truly allergic to penicillin.

b. **< 1%** of the population are truly allergic to penicillin

c. **~ 80%** of patients with IgE-mediated reactions lose their sensitivity after 10 years

Therefore, because of the high rate of self-reporting Penicillin allergy, many patients are treated with alternative antibiotics which predispose patients to an increased incidence of complications.



2. Alternative Use Of Clindamycin

Currently, Clindamycin is the most commonly used alternate antibiotic for penicillin allergic patients. Unfortunately, unbeknownst to most clinicians, there exists an abundant amount of literature reporting many disadvantages of Clindamycin use such an increase in infections, implant failure, bone regeneration failure, and peri-implantitis (see Clindamycin studies above).

Therefore, the use of prophylactic Clindamycin for implant patients has actually been associated with increased complications and implant failure rates.

What Are My Alternatives For A Penicillin Allergic Patient ?

So, what are the alternatives other than Clindamycin to prescribe to patients? It has been well accepted in the literature that the most ideal antibiotic for prophylaxis prior to implant surgery is a beta lactam antibiotic. In dentistry, the two most common beta lactam antibiotics are the Penicillin's and the Cephalosporins.

Unfortunately, there exists many myths and false information concerning the cross-reactivity between penicillin and cephalosporins. It was once thought the similarity that resulted in allergies was derived from the similarity of the beta lactam ring. However, that has been disproven and even though both antibiotic classes have beta lactam rings, the cross reactivity has been linked to one of the two side chains, termed R1. The 1st generation Cephalosporins have a similar R1 side chain to the Penicillin family. However, the 2nd, 3rd , 4th , and 5th generation have dissimilar R1 side chains.

Therefore, if a patient presents with a known Type 1 Hypersensitivity to Penicillin, 1st generation cephalosporins (e.g., Keflex) should not be prescribed as their R1 side chains are similar. However, the 2nd , 3rd , 4th , and 5th have dissimilar R1 side chains, and the literature supports the use of these drugs as the cross-reactivity is very low and is medico-legally defensible by the currently available evidence. 14

CLINDAMYCIN (IMPLANT) STUDIES

Wagenberg (2006) : 5.7 times the failure rate
Duewelhenke (2007) : Cytoxic effects on osteoblasts
Naal (2008) : Reduces alkaline phosphatase
Rashid (2015) : Increase Peri-Implantitis Bacteria Prevotella
Khoury (2018) : Increases sinus graft infections
Saloma-Coll (2018) : 25% implant failure
Basma (2021) : Socket Graft – 10.7%, GBR 22.5% Failure Rates
Salomó-Coll (2022) : Failure rate 25%
Bagheri (2022) : Failure rate with Clindamycin – 19.9%

Summary

In summary, when a patient presents with a self-reporting allergy to Penicillin, there exist 3 options:

OPTION 1: Alternative Antibiotic

The recommendation for an alternative prophylactic medication is Ceftin (Cefuroxime). Ceftin is a 2nd generation (i.e., therefore very low cross-reactivity with penicillin) cephalosporin which exhibits broad spectrum of action against gram positive and negative organisms, not costly, and is resistant to hydrolysis from beta-lactamase. Thus, Cefuroxime (500mg BID) is an ideal alternative to Amoxicillin or Augmentin. *(cont'd pg 8)*

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MASTERING THE BUSINESS OF DENTISTRY

ROGER P. LEVIN DDS

Hello Readers,
I am extremely excited to be providing a new column for the Misch Resnik Implant Institute newsletter. I have great respect for the educational importance of the Institute, and I hope that I will be able to contribute ideas on the business of dentistry and increasing practice production that will benefit all students and alumni. My own career as CEO of Levin Group began with one question that I am still asking 38 years later: How do you increase production in a dental practice while reducing stress? Based on this career-defining question, I look forward to providing relevant information that includes practical recommendations that can be implemented quickly to benefit all your practices. So, here we go.
All the best, Roger

FOUR WAYS TO INCREASE PRACTICE PRODUCTION

Dentistry is a business and as a general dentist who practiced 10 years full-time and then kept a hand in clinical dentistry for many years after that, I found that one of the biggest challenges for dentists is balancing clinical education and skill set enhancement while mastering many of the essential business skills that determine their career paths and the long-term performance of their practices.

Dentistry is a complex small business. Just like much larger businesses, it must deal with a variety of operational areas including financial management, human resources, customer service, inventory, overhead control, and recruiting and hiring. The difference for dental practices is that all these things must happen while the dentist is also spending most of their time chairside with patients focused on clinical excellence. The key to success is to implement documented, proven, business systems that allow the team to operate at the highest and most efficient level.

One essential concept that I will focus on throughout these columns is increasing practice production. In any business there is one measurement or metric that is more important than any other in understanding the business and making strategic decisions. For dental practices, this number is production. Looking at production alone and as a ratio with many other factors such as overhead as a percentage of production, production per patient, production per hour, production per implant patient and other ratios will give more insight into practice performance and where the strengths and weaknesses exist more than any other single measurement. For the purposes of this column, it is important to understand that production will be the number one factor in determining the short-term and long-term success of a practice and the good news is that if production is healthy and the ratios are in line, it indicates that your practice is healthy and performing well.

1. INCREASE THE NUMBER OF IMPLANT CASES.

Many or all of you have had the opportunity to receive advanced implant education through the Misch Resnik Implant Institute. Adding a new service to a practice is always a beneficial strategy for increasing practice production. Some of you are already involved in implant dentistry and others are learning it from the beginning. Your clinical education was comprehensive and created a wonderful opportunity to develop the confidence to be involved in implant dentistry. But there is another side...

The other side is the business side of dentistry and dental implants. In many cases, even with advanced clinical education, dentists tend to simply add the new service and identify patients on a random basis for treatment. This is a reactive approach which means that the practice has not developed a plan to drive dental implants to a higher level. If you want to increase the number of implant cases, then it is essential to design a strategic plan and specific goals around the implant component of the practice.

There are a number of areas to be addressed, and, again, we will focus on many of these in future columns. For example, educating every patient on the fact that implant dentistry is available as a service, starting with the first new patient phone call, is a great starting point. Levin Group further recommends that you have a recurring email that reaches patients every 30 days and includes at least one update on implant cases and the benefits of implant dentistry. It could be advancements in the field, types of patients that qualify, new information, or just an overall reminder of the key benefits. Another example is the power

(cont'd pg 5)

of the dental hygienist in educating every patient in the practice through a scripted overview about implant dentistry. While most patients won't need implant dentistry at that moment, they may know others who would benefit. Keep in mind that any time you add a new service to the practice there should be a strategic implementation plan and then a long-term communications plan developed to continue to advance the number of cases each year.

2. SET SPECIFIC GOALS.

Goal setting is one of the most powerful activities that a dentist can engage in. This is because goal setting opens your mind to possibilities. You learned a great deal about dental implants in your education and your mind was open to the possibilities of offering and growing the number of implant cases. However, without setting a goal to increase the number of implant cases every year, your mind won't be open to the possibilities of how you might achieve that goal.

Levin Group recommends that you set a goal for the number of implant cases you will perform in any given year and that they grow by at least 10 to 20 percent annually. The fact that you may not know exactly how you're going to make that happen when you set a goal is not important. What is important is having the goal. By setting the goal you are now opening your mind to the possibilities of how you will achieve it. It may be by adding additional clinical knowledge, enhancing the internal marketing program, adding an implant treatment coordinator at least part time in the practice, offering the right spectrum of financial options, or inviting new patients or family members of patients for no-cost implant exams. These and other strategies become the beginning of achieving the goal of increasing implant cases each year by 10 to 20 percent.

3. REACTIVATE ALL OVERDUE PATIENTS.

Levin Group is currently conducting a study on prioritizing practice production strategies. In our initial findings, there are 244 ways to increase practice production by 1% or more, with some of them achieving a 10 to 20 percent increase. The objective of the research project is to work through a process of ranking these production growth strategies in priority order.

Because of the pandemic, we believe that the number one way to increase practice production is to reactivate all patients who don't have a next appointment scheduled. The approach we are now teaching practices is that any patient who is one day overdue for their appointment will be contacted that day by phone or voicemail using positive and energizing scripting. We then recommend a nine-week follow-up process that starts with three text messages (one per week) followed by three phone calls (one per week) with voicemail messages left and followed by three emails (one per week). We often hear from dentists that this may be perceived as overwhelming or even harassing by patients; however, we find that the average response time for this process is about 4 weeks.

Why is it so important to reactivate overdue patients? The answer is simply that the more patients you have, the more candidates you will have for implant dentistry. Additionally, reactivating patients increases practice production significantly. One of your goals is to increase implant dentistry by 10 to 20 percent each year and these reactivated patients will likely have other dental needs to add to practice production. In another study that has been conducted by Levin Group, we focused on revenue losses over a 36-year career from areas not addressed by the practice over time. We estimate that the lost revenue to an average practice from patients that are simply off-cycle in their visits could be as high as $2 million over 36 years. This does not include patients who do not have their next appointment and never end up coming back to the practice. That lost revenue would be considerably higher. Therefore, it makes sense to have a rigorously followed system regarding reactivation of overdue patients.

4. INCREASE PRACTICE PRODUCTION EVERY YEAR.

The single most important objective of each practice is to increase production on an annual basis. Certainly, there may be a few years over a career where practice production does not grow, but you want to always be working in that direction. Dentistry is a business and as a business it will face new changes and challenges on a regular basis. These can be overcome by focusing on having at least three new strategies each year to propel the practice forward. For example, one practice we know set these three goals:

1. Perform 25 more implant cases than the previous year.
2. Reduce no-shows to under 2% (currently at 6%).
3. Add one new assistant and select an assistant to be trained to educate patients interested in implant dentistry before the patient meets the doctor.

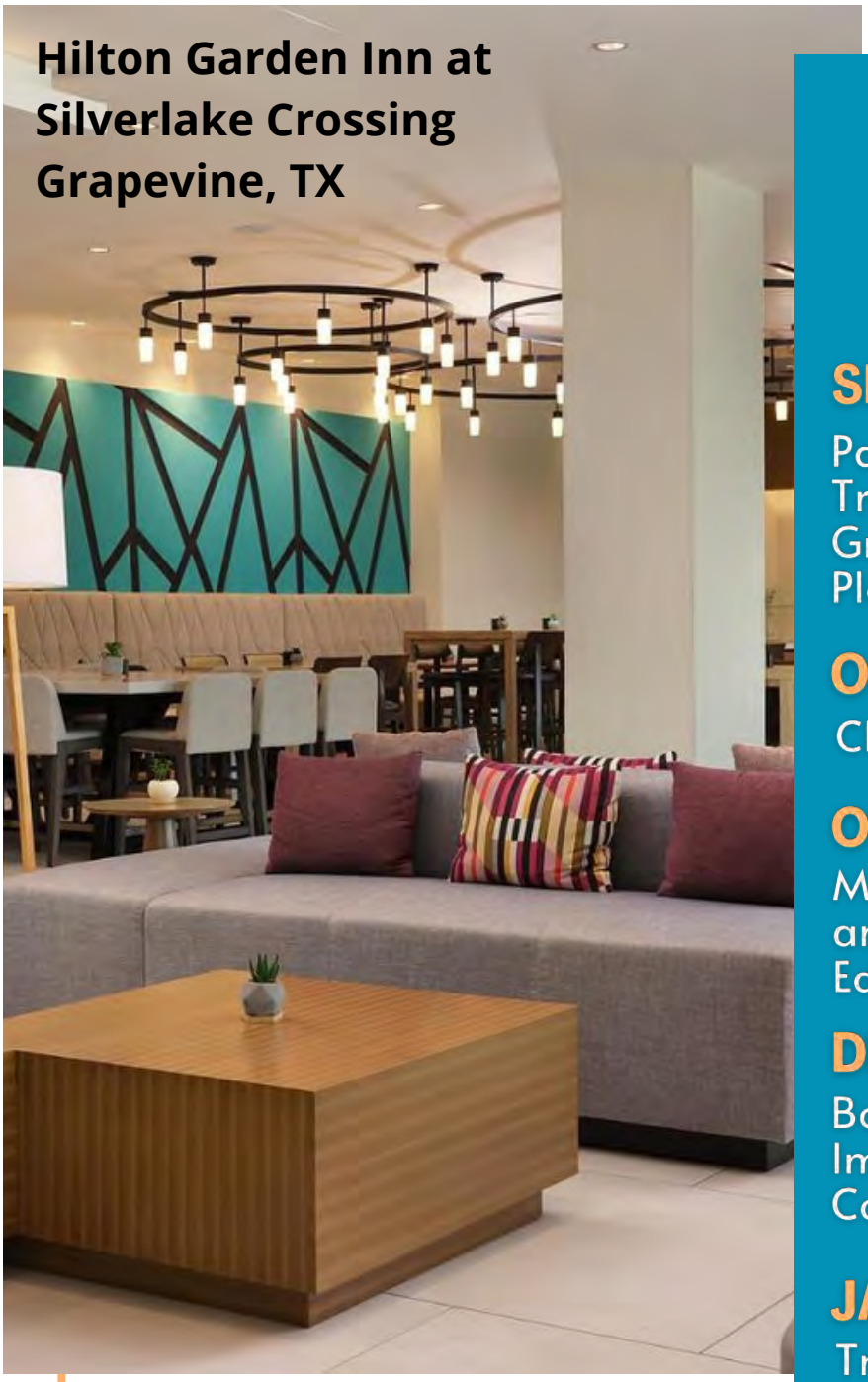
Each practice must determine what goals are in their best interest. For example, a different practice may identify weaknesses in staff training and set a goal of enhancing the skill set of all dental assistants in a specific set of clinical areas including assisting for implant dentistry.

SUMMARY

Dental practices are businesses and dental implants, as and expanding service, represent one of the best ways to increase practice production. However, increasing the number of implant cases is only one strategy amongst many that will allow practices to increase production and practice performance. Understanding the key drivers of practice production will ultimately allow a practice to achieve the essential objective of increasing production every year.

ROGER P. LEVIN, DDS

Roger P. Levin, DDS is the CEO and Founder of Levin Group, a leading practice management consulting firm that has worked with over 30,000 practices to increase production. A recognized expert on dental practice management and marketing, he has written 67 books and over 4,000 articles and regularly presents seminars in the U.S. and around the world. To contact Dr. Levin or to join the 40,000 dental professionals who receive his Practice Production Tip of the Day, visit www.levingroup.com or email rlevin@levingroup.com.



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STUDY OF THE MONTH

DOES THE FULL-ARCH PROSTHESIS MATERIAL WEIGHT MATTER?

Study: Various Full-Arch Prosthesis materials were evaluated with respect to weight and the amount of strain to the bone.

Conclusion: A 3D finite element stress analysis determined the following:

- The heavier the full arch prostheses, the greater strain to the implants/bone.
- The greater number of supporting implants, the less strain on the bone
- The lightest full arch material tested was PEEK framework with acrylic resin (~ 10 gm)
- One of the heaviest tested was Zirconia framework with ceramic veneer (~40 gm).

Tribst, João Paulo Mendes, et al. "Does the prosthesis weight matter? 3D finite element analysis of a fixed implant-supported prosthesis at different weights and implant numbers." The Journal of Advanced Prosthodontics 12.2 (2020): 67.

TAKE HOME MESSAGE: Take into consideration prostheses that are inherently heavy (e.g.,Porcelain/metal , Zirconia) when treatment planning, especially in cases with excessive restorative space which will result in a larger (heavier) prosthesis.

CLINICAL QUESTION OF THE MONTH

Studies have shown that approximately 35% of patients take herbal supplements. Many of these homeopathic medications may have serious adverse effects such as increased bleeding episodes and severe drug interactions. According to studies, what percent of these patients fail to disclose the use of these medications on medical history forms?

a. 10 %
b. 25 %
c. 45 %
d. 60 %

TAKE HOME MESSAGE: Make sure your medical history form includes “Herbal Supplements"

ANSWER: (D) 60%

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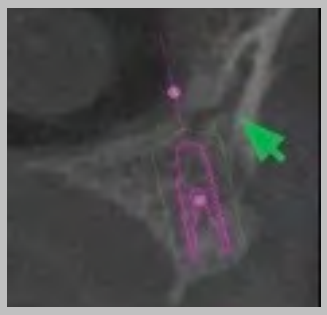
CBCT QUESTION OF THE MONTH



In the presented CBCT image (maxillary canine position) what does the green arrow point at?

A. Defective Graft Healing.
B. Periapical Pathosis.
C. Canalis Sinuosus.
D. Oro-antral communication.

Sara Amin, BDS, MSc
Clinical Director
ITXPROS

TAKE HOME MESSAGE: Implant placement into the canalis sinuosus has been associated with intractable pain episodes

OPTION 2: Allergy Testing

As stated above, less than 1% of patients are truly allergic to Penicillin. For a patient to be allergic to Penicillin, they would have to have suffered from a Type 1 Immediate Hypersensitivity Reaction (i.e., most common allergic reaction). For a true Type 1 hypersensitivity reaction, two of the following conditions would have to be present:

Skin: Hives, Flushing, Itching, Angioedema
Respiratory: Cough, Nasal Congestion, Shortness of Breath
Cardiovascular: Hypotension, Tachycardia, Fainting
Gastrointestinal: Nausea, Vomiting, Cramping, Diarrhea

Therefore, to confirm a true allergy, the patient should be referred to their physician or allergist to have either a skin test or a graded challenge test (small doses of penicillin that are gradually increased over a five-day period.)

OPTION 3: Alternative Non- Beta-Lactam Antibiotics

Although, not nearly as effective, doxycycline (100mg) or azithromycin (500 mg) may be prescribed as alternative prophylactic medications. Unfortunately, both are associated with high resistance and are not as effective against oral pathogens as beta lactam antibiotics.

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10 Oscar Salomó-Coll; Do Penicillin-Allergic Patients Present a Hi.her Rate of Implant Failure? The International Journal of Oral & Maxillofacial Implants 2018, 33, 1390-1395, 10.11607/jomi.7018
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- Completion of the Fellowship Exam Application

Mark's Corner

by Mark Romano
CEO of NOW MEDIA

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- **What is Google looking for?**

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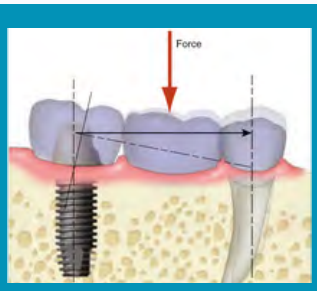

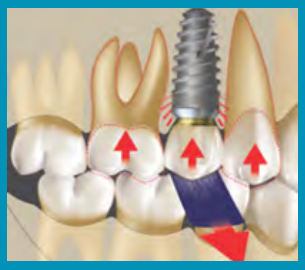

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