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Amanda Lee, Elite Full Arch Reconstruction
by Dr. Duane Delaune, 2018.

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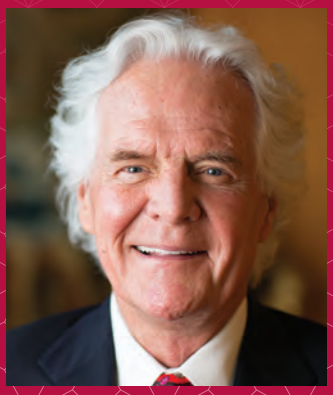
Do What Scares You



Overcoming Fear and Doubt with Hope and Faith.

The start of a new year is a great time to examine the past year and make goals about the things we want to improve. Everyone seems to understand the concept of goal-setting, but only a few people can successfully implement them.

In early January, the gyms are full of people working on the goal to get in physical shape. By the end of the month, the crowds have diminished and the gym is again populated with the "regulars."

The same pattern can be seen in dental practices across the country. Each year, dentists decide to make the coming year better than before. We are going to be better leaders and communicators in our practices. We are finally going to do a large case. We are going to be better and more productive.

For the first few weeks in January the excitement is palpable, but by the beginning of February, that ambition has usually diminished to a shadow of what we intended. When another new year rolls around, we try again.

THE ROOT OF THE PROBLEM

I have experienced years like this in my own career. It was the inherent dissatisfaction with such a routine that led me to find a better way. To understand why this cycle happens, we must answer the question: What prevents us from making effective and lasting change? The answer is fear and doubt.

Fear and doubt are at the heart of what stops all human attempts at self-improvement. The goal of being a better leader is usually stymied when we encounter a difficult situation. We start to doubt our own judgement and operate from a place of fear in making a wrong decision. As such, we lose the confidence of our team members and, possibly, our associates. So we retreat to the way we have always done things in the past.

The cure to fear and doubt is to have hope and faith—a phrase that is easily said but quite difficult to do.

We can experience fear in many ways: we fear that patients will say no to treatment, we avoid difficult team members, and we worry that we might not know how to handle a case that is more advanced than what we have attempted in the past. As a result of fear, each year finds us making only minor advancements in our skills and productivity.

THE SOLUTION

The cure to fear and doubt is to have hope and faith—a phrase that is easily said but quite difficult to do. The Roman emperor Marcus Aurelius (AD 161–180) understood this all too well. He accomplished great things despite seemingly insurmountable odds. He wrote, "The impediment to action advances action. What stands in the way becomes the way." This quote means that the solution to any obstacle is to go *through* the obstacle. Knowing what the obstacle is can lead you towards a path to overcome it.

UP IN THE AIR

I learned this principle when I started taking flying lessons at a young age. I remember the flight instructor asking, "Do you want to try getting out of a spin?" I was game for anything so he put the plane into a spin. The experience frightened me so much that I actually considered never piloting a plane again.

For those not familiar with a spin, it is when a plane stalls and starts to fall in a spinning motion. It is not unlike the feeling a dentist can have when attempting his or her first full arch case, or when having to deal with a difficult situation involving a team member. At such times, dentists might think, "Maybe I should stay where I am and not try to go beyond my limits." It's a classic inner dialogue of fear and doubt. *(continued on page 42)*

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Don't Wait Any Longer

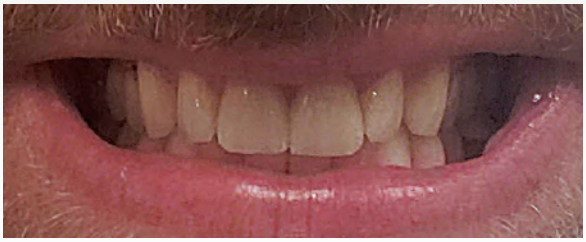
A Dentist Becomes the Patient in a Full Mouth Rehabilitation Case.

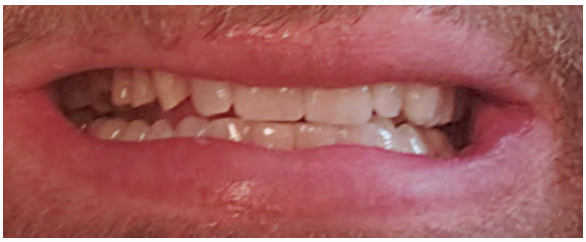
The more I interact with other dentists, the more I realize that many dental professionals are just like everyone else: we avoid going to see a dentist, even when we really need to.

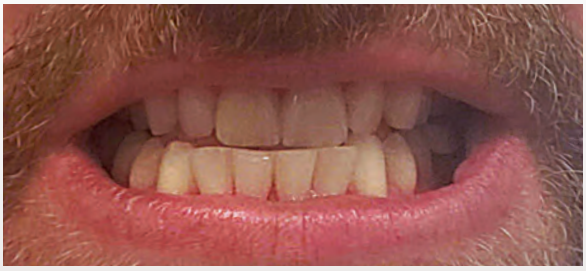
I have performed many root canals while suffering from a toothache. I have fitted many sleep appliances and then gone home to snore all night.

It's like being an architect who lives in a shack: you have access to the best materials, the best tools, and the best knowledge, but you use them purely for other people's benefit, neglecting your own needs.

(Above) Before, full face view.







(Above, top to bottom) Before, closeups.

(Above) Dr. Eric Wendelschafer (center) and his team members from Great Smiles Dental Care in Surprise, AZ.

As dentists, we understand, probably better than anyone, the importance of good dental care, prophylaxis, and treatments. We preach about the health benefits and facilitate the financing for patients, and then we go home and forget to floss our own teeth. It took a series of experiences to finally get me off my ergonomic saddle chair and into the patient chair.

MY BACKGROUND

I invest a lot of time and money in learning the dental trade. I actually like to read dental textbooks like Dawson, Spear, Ellis, and Misch. I find that studying "old school" discovery and innovation creates a deeper understanding of principles behind the rapidly advancing technology and materials at our disposal. When I read and look at the technicolor photos, I consider the implications and treatment modalities for my patients.

Before I got my bite redone, I would rub my head and jaw at the end of a study session and take some ibuprofen. I even wrote an article in the Fall 2015 issue of *Aesthetic Dentistry* magazine about taking a Full Arch Reconstruction (FAR) course and treating a friend of mine who suffered from headaches for years. Yet I had suffered from headaches for years, too.

After I returned home from that course, I worked on another full mouth patient and applied what I had learned. I realigned his bite position using neuromuscular-based occlusion, aligning the occlusion based on jaw muscle and TMJ position. He was ecstatic—I had put a stop to decades of headaches for him.

I went on to do the same for dozens more patients, often eliminating their migraines, neck pain, sleep apnea, bruxism, etc. I decided to wear my own orthotic at night for clenching and bruxing, and it helped, but it only helped while I wore it.

My bite was a fairly normal Class I occlusion and my facial type is brachiofacial. I had a clenching problem that correlated with anterior entrapment. While moving into centric relation, my lower anteriors would hit the palatal of the upper anteriors and slide the jaw posterior, compressing the discal tissue and triggering muscle spasms.

Because I had ground my teeth down for so many years, I had sheared off my canines, eliminating canine guidance or disclusion. In excursive movements, the second molars would hit on the non-working side, causing further discomfort in the anterior temporalis. This pattern continued for several years.

> It's like being an architect who lives in a shack: you have access to the best materials, the best tools, and the best knowledge, but you use them purely for other people's benefit, neglecting your own needs.

While attending another course with the Dr. Dick Barnes Group (DDBG) in Utah and listening to the instructor, Dr. Jim Downs, discuss muscle pain in malocclusion patients, I found myself massaging the muscles of my head and jaw, as I often did. That day, like most days, I had a deep, awful headache, neck pain, and jaw soreness.

I noticed that Dr. Downs was looking at me—and I saw him glance at my movements. It was almost as if he were to ask "Are you even understanding any of this?" But he continued the lecture without saying anything. With that one look from him, I knew it was time to commit to doing something. ›

Aesthetic Dentistry

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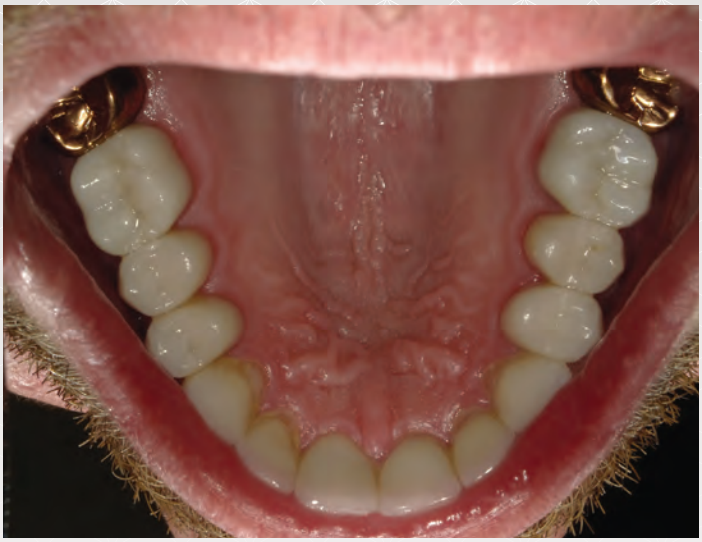
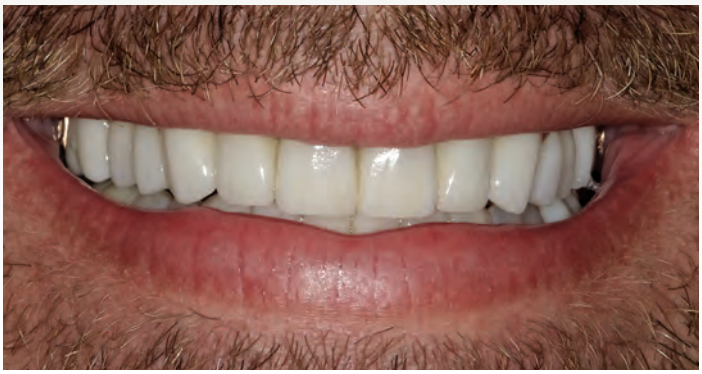


(Above) After, mandilbular view.

Anyone who has had chronic pain knows that it's a terrible way to live. In my case, there was an obvious solution that I had used to help others. I was long overdue for a permanent solution myself.



(Above) After, frontal view.

"The more I interact with other dentists, the more I realize that many dental professionals are just like everyone else: we avoid going to see a dentist, even when we really need to."

(Above) After, full face view.

right. Because Dr. Downs is my mentor, I asked him if he would take my case. I flew from my home in Arizona to Dr. Downs's practice, LêDowns Dentistry, in Denver, CO, a total of three times for the treatment.

During my first visit, Dr. Downs used the TENS unit to relax the jaw muscles and reduce muscle memory. Then he used the T-Scan® for occlusal analysis, and he made some minor adjustments for equilibration. I left feeling better than when I came, but after a few months my symptoms came creeping back. My anteriors started hitting again.

We decided that my lower jaw needed to advance forward a few millimeters, and Dr. Downs eliminated the anterior entrapment, which allowed my jaw to come forward and released the pressure and trigger points.

MAKING THE COMMITMENT

I had several reasons for not getting the dental work done: most importantly, I had just bought my practice and money was tight. I knew it would be hard to take time off, too. But in that one moment, I knew it was time. Anyone with chronic pain knows that it's a terrible way to live. In my case, there was an obvious solution that I had used to help others. I was long overdue for a permanent solution myself.

During a course break, Dr. Downs confronted me and gently asked if I was finally going to take care of the issue. Of course he was

The lower anteriors had been adjusted so they weren't the first teeth to hit. We decided that my lower jaw needed to advance forward a few millimeters, and Dr. Downs eliminated the anterior entrapment, which allowed my jaw to come forward and released the pressure and trigger points.

Figuring out which muscles were distressed and why requires investigation and homework by the dental provider and the patient. Temporary removable orthotics were critical in preparing my mouth for a permanent occlusal rehabilitation. In my case, I wore a lower thermoplastic orthotic at night, and also when ›

I would do long procedures. It took away my pain, proving that the proposed treatment was the right thing to do.

Dr. Downs graciously involved me in the diagnosis and asked for my input. He instructed me along the way and guided my understanding so that my treatment turned into a master class. It was invaluable in every way.

PREP DAY

On the second visit, Dr. Downs prepped 22 teeth and placed the temporaries. After it was done, I took all kinds of pictures because it looked so great (see *page 8*). Once the anesthesia wore off, I was able to assess my bite and I got a chill down my spine—all my teeth hit at the proper time and in the proper envelope of function. The next day I woke up with no pain. My head and neck pain simply vanished.

I get compliments on my smile all the time now, and while that's a great benefit, it didn't play into my initial decision.

Like many patients, I couldn't believe how fast the time went during the treatment. I didn't have any trouble or spasms at all. Then we gave it a day to rest and waited for the anesthesia to wear off before getting the biofeedback. I returned to Dr. Downs' office the following day where he made some minor adjustments to my teeth. He tested my bite with the T-Scan®—for timing and force—and then I went home to Arizona. I didn't return to have the finals seated for two months.

After arriving home and settling into daily life, I couldn't believe the difference. I'd been in denial that I needed dental work. But if I needed proof, this was it: immediate relief from pain. I knew I should have had the work done sooner.

Now that it's done, my only regret is that I didn't do it sooner. I wish I had just saved up and made the commitment earlier, because it would have saved me years of pain.

I took really good care of the temps because I've had patients who didn't, and we weren't able to cement on seat day due to bleeding gums. Therefore, I was constantly brushing, using the AirFloss or Waterpik®, and following the prescription for temporaries that we give everybody—taking my own advice for once!

In addition, I used a tube of the MI Paste® Plus, which I kept with me and applied every morning and afternoon. It's a calcium-based product with fluoride. It reduces sensitivity and prevents bacteria. A full mouth rehabilitation is such a big investment and I had to travel for each appointment, so I was meticulous about hygiene.

In my case, Dr. Downs left about 2 mm of freeway space, but within a week I had taken that up and started to get another muscle ache on my left temporalis. I traveled to Utah for a continuing education (CE) class that Dr. Downs was teaching, and he made a few adjustments while I was there. The problem was solved.

For the entire rehabilitation, Dr. Downs placed 22 crowns, which was a big commitment. I would have had them all done, but Dr. Downs didn't think it was necessary; we just redesigned my bite a bit. I get compliments on my smile all the time now, and while that's a great benefit, it didn't play into my initial decision. I was happy with the look of my original smile.

RESULTS

An important consequence of having a full mouth rehabilitation is that I am now more empathetic with my patients who undergo the same procedure. I can talk about their symptoms from the perspective of a fellow patient. If they have sensitivity, I can say more than, "Oh, that's normal," which can feel dismissive. I can say, "Yes, I had sensitivity for two weeks," and it's no longer a theoretical or academic statement. Now when patients hear about my personal experience, they think of me as a fellow patient, rather than just the doctor.

I always stress how important it is for patients to care for the temporaries. I give them the MI Paste® Plus, the AirFloss flosser, and an electric toothbrush. I'm more deliberate in my treatment because I know what can cause post-op issues. I also use the laser more than I used to for a better post-op experience and to make the bonding session more predictable.

Now that it's done, my only regret is that I didn't do it sooner. I wish I had just saved up and made the commitment earlier, because it would have saved me years of pain. Obviously it's not just dentists who put off dental treatment; denial is a fairly universal human emotion. But dentists don't have the excuse of ignorance. If you need treatment, get it. Don't wait. ■

COVER STORY PHOTOGRAPHY
Michael Schoenfeld, Schoenfeld Photography, www.michaelschoenfeld.com, Salt Lake City, UT

Eric Wendelschafer, D.M.D., has been practicing dentistry since 2012 in Surprise, AZ (near Phoenix). He attended the Arizona School of Dentistry & Oral Health near his hometown of Gilbert, AZ. Dr. Wendelschafer specializes in comprehensive and implant dentistry. He spends much of his free time traveling to CE courses to learn the newest and best methods to care for his patients. His mission is to provide high-quality, long-lasting dentistry in a stress-free environment.

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Training Session:
The Patient Experience — *Hernan Varas, M.B.A.*

Training Session:
Case Diagnosis — *Dr. Jim Downs*

Breakout Session:
Case Design/Segmentation

Training Session:
Rehab Fees/Upgrades — *Dr. Jim Downs*

DAY 2

Training Session:
Presenting Treatment — *Dr. Jim Downs*

Training Session:
Finding the Money — *Hernan Varas, M.B.A.*

Role Playing Exercises:
Various Scenarios

Training Session:
Production Goals — *Dr. Jim Downs*

Training Session:
Being the C.E.O. — *Dr. Jim Downs*

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In early 2019, I met a new patient who wanted to get some cosmetic work done. She had recently graduated with a Ph.D. in neuroscience and was planning a move from Texas, where Smile 360 (our practice) is located, to Las Vegas, NV. She wanted to start her new life with a new smile. For several years, the patient hadn't smiled in photos because she was self-conscious about her teeth.

During our first meeting, the patient expressed her dissatisfaction with her smile and said her main goal was to correct her front teeth.

After reaching out to friends for suggestions, she found our practice. It turns out that one of our previous hygienists was a friend of hers and had recommended us. Although she lived in Dallas (about a three-hour drive to our practice in Austin), she wanted to meet and consult with us.

During our first meeting, the patient expressed her dissatisfaction with her smile and said her main goal was to correct her front teeth. She told us that she was congenitally missing tooth number 7, and had been told by previous practitioners that the gap left in that space could not be fixed with orthodontic treatment.

The patient had gotten married the previous year, and prior to the wedding, she had some bonding done on her anterior teeth as a temporary solution to the diastema and discolored teeth. However, the bondings were breaking down and chipping. She wanted to find a better solution, despite the fact that her previous dentists hadn't given her much hope.

Upon further discussion, we learned that the patient had gotten bondings done prior to the latest ones, and they had broken down as well.

THE INITIAL EXAM

During her exam, I noticed that the patient had a strong maxillary frenum and I confirmed she was missing tooth number 7. She also had a low lip line. We discussed doing anterior, all-ceramic restorations to make the laterals appear present via re-contouring, and shaping her teeth with porcelain restorations.

(Above) Before, full face photo.

(Above) After, full face photo.

In addition, we noted the following: she had a lip tie and a Class I occlusion, her maxillary midline shifted to the right about 1 mm, the lower anterior retroclined, tooth number 24 proclined with moderate lower crowding, she had omega lower arches, tooth number 28 was in crossbite, and she had a Shimbashi measurement of 16 mm.

I recommended orthodontics prior to the final restorations because of her lower right being in crossbite, which could affect the shape (or look) and function of the teeth on the right side. We also discussed her lip line and doing some gingival contouring to give her teeth a fuller, broader appearance.

She wanted to find a better solution, despite the fact that her previous dentists hadn't given her much hope.

Because she was planning to move in the near future, the patient decided against doing orthodontics (I had determined that her molar occlusion was stable), and she indicated that it might be something that she'd look into later in life.

The patient also opted against gingival contouring for the low lip line, reasoning that no one would really see it. And she chose not to address the maxillary frenum at that time either. I explained that she could do it later on if she changed her mind. Even though her treatment plan was modified from my original recommendation, we were able to agree on a plan that worked with her moving schedule and gave her the smile that other dentists said she would never have.

To begin, we took records, including a CEREC® full arch scan, PVS full uppers, PVS full lower impressions, a bite stick registration, and the American Academy of Cosmetic Dentistry (AACD) ›

photo series. Then we showed the patient photos of some of our other cases so she could see a visual representation of what our practice could do.

DIAGNOSIS AND TREATMENT PLAN

After the examination, I recommended the following:

- Elite restorations on tooth numbers 4, 5, 6, 8, 9, 10, 11, and 12
- a nocturnal orthotic to protect her restorations
- occlusion verification with the T-Scan™
- a sleep test to determine the cause of her grinding or clenching

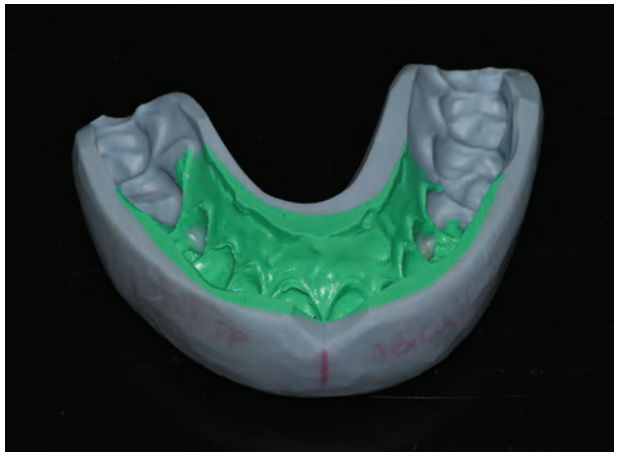
We decided against doing any work on her lowers, but that's something she may opt to do in the future.

We sent her case to Arrowhead Dental Laboratory in Salt Lake City, UT, and informed the lab that the patient was missing tooth number 7. The patient had very worn teeth, and we wanted to conserve as much of her natural dentition as possible. Our goal was to make her smile look natural, and we communicated that to the lab.

THE WHITE WAX-UP

When we received the first White Wax-Up from Arrowhead, the patient again made the drive from Dallas to Austin so we could review it with her. She requested a few minor changes. On the original wax-up, tooth number 6 looked a bit "too wide" and did not have the same shape as tooth number 10. We wanted the shape of tooth number 6 to match her congenitally missing tooth number 7. Also, we wanted tooth number 5 to look more like a canine. The lab accommodated all of our requests. When we received the second wax-up, the patient and I were satisfied with the results and did not request any further changes.

> Even though her treatment plan was modified from my original recommendation, we were able to agree on a plan that worked with her moving schedule, and gave her the smile that other dentists said she would never have.



(Above) A Sil-Tech® matrix.

PREP DAY

About three weeks later, the patient returned for the prep appointment. The patient was in good periodontal health so we agreed to move forward.

The full procedure was as follows:

- We prepped tooth numbers 4, 5, 6, 8, 9, 10, 11, and 12.
- Due to the strong lip tie and large diastema that was closed by the previous composite with inter-proximal bonding, we wrapped the prep subgingivally on tooth numbers 8 and 9 to close the 3 mm diastema.
- The diastema was a bit wider than I anticipated between tooth numbers 8 and 9, so we discussed crown lengthening, and I adjusted the margins.
- On tooth numbers 8 and 9, to make things fuller, I went subgingivally on the prep.
- Because the patient had an omega arch, I wanted to fill her buccal smile corridor.

GREAT LAB RECORDS = GREAT RESULTS

- **Digital records for prep analysis and zoomed view of margins**
- **PVS impressions for both arches using the fifth hand for correct alignment**
- **Core shade guide (we use Ivoclar natural die material shade guides)**
- **Photos (via an SLR camera) of pre-prep, prep with core shade, provisionals, and stick bite with mid-line marked**
- **Full arch bite registration, and bite registration with mid-line marked**

- We prepped for veneers and saved as much of the lingual as possible.
- I utilized the preparation analysis feature with CEREC® post-prep, which allowed me to know exactly how much to prep to the millimeter.
- With this feature, I kept the prep to a minimal amount and still had confidence that the veneers would have the right retention and thickness.
- We chose tooth shade OM3 and informed the lab that her core shade was ND1 on tooth numbers 8, 9, and 10, and ND2 on tooth numbers 4, 5, 6, 11, and 12.

We took photos of everything and the patient was extremely happy with the results of the temporaries.

- We were able to use the Sil-Tech® matrix the lab had made (see *photo on page 16*) based on the wax-up to build the temporaries as one unit, and we spot-etched and placed adhesive on tooth numbers 5, 8, 9, and 12 to tack the temporary in place.

We took photos of everything and the patient was extremely happy with the results of the temporaries. Before treatment, the patient reported that she did not smile very often, so most of her buccal corridor was not visible. With the temporaries, however, the patient was extremely pleased, and we saw more of the smile corridor.

While the final restorations were being fabricated, the patient returned to the practice for a follow-up appointment. We noted that the temporaries were functioning well, and I took a T-Scan® to ensure that the measurements were correct.

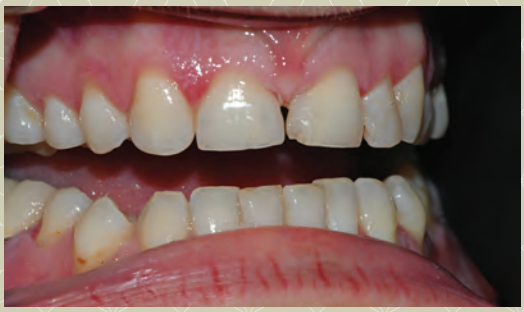
Before treatment, the patient reported that she did not smile very often, so most of her buccal corridor was not visible. With the temporaries, however, we saw more of the smile corridor.

We made some minimal adjustments and discussed the color of the temporaries. We decided to add more incisal translucency to the final restorations to make her teeth appear life-like.

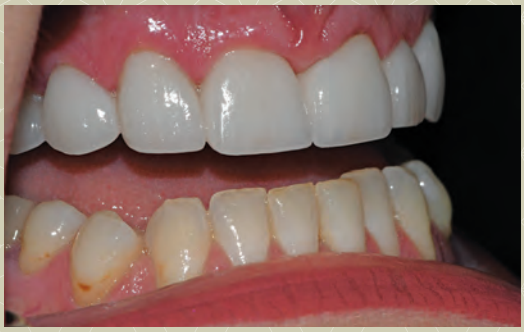
SEATING THE FINALS

We were able to get the Elite e.max® restorations back from Arrowhead in a quick timeframe. Their representatives worked with us to deliver the restorations quickly, knowing that the patient had a limited amount of time due to her upcoming move.

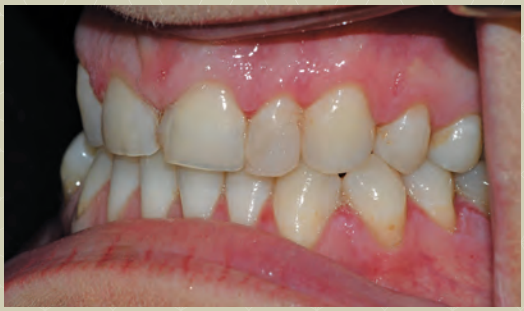
The patient returned three weeks later for provisional removal and cementation of the final restorations. I could tell by the healthy gingival appearance that she had been compliant with her temporary care and had been using the Waterpik® device as instructed. ›



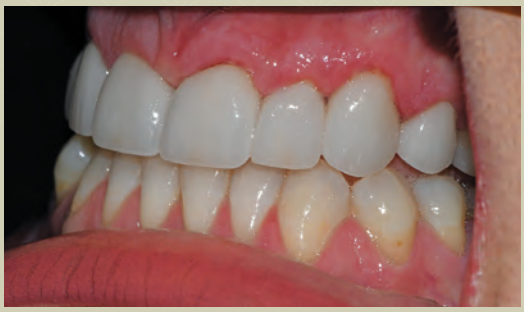
IAbove) Pre-operative frontal retracted view.



(Above) Post-operative frontal retracted view.



(Above) Pre-operative left lateral occlusal view.



(Above) Post-operative left lateral occlusal view.

I proceeded as follows:

- We anesthetized the patient and began to carefully remove the one-unit provisional using a combination of carbide burs (245 and 330).
- After removing all temp material, we cleaned the prepped teeth using a 2% chlorhexidine rinse (Peridex™) and controlled any heme.
- We dry fit the permanent Elite e.max® restorations and checked occlusion, mid-line, margins, and contacts.
- After confirmation of the contacts, we prepped the intaglio surface with Ivoclean for 20 seconds, and then thoroughly rinsed with water spray and dried with air.
- We then applied Monobond Plus universal primer and let it react with the internal surface of the restoration for 60 seconds, then subsequently dried.
- We prepped each individual tooth by pre-etching the surface and using the Adhese® Universal VivaPen® dispenser for 20 seconds per tooth.
- We proceeded with light curing using Adhese® Universal for 10 seconds, practicing four-handed dentistry with two curing lights.
- To prevent canting, we bonded tooth numbers 8 and 9 to allow for an even mid-line, eventually seating adjacent e.max® restorations on tooth numbers 6, 10, 11, 4, 5, and 12, using Variolink® Esthetic LC cement in the color neutral.
- We ensured that the restorations were fully apically seated to the margins of each tooth prior to flash curing to prevent open margins.

When we seated the final restorations, the patient could not stop smiling. After she got in her car, we watched her from the office as she called her husband—she was smiling from ear to ear!

- We applied Liquid Strip to prevent any heme oxidization and to help ease excess cement removal.
- Once restorations were fully seated, we cleaned up all bulk excess with a Piezo™.
- I adjusted the opposing tooth numbers 26, 27, and 28 to have the appropriate clearance for the anterior maxillary restorations.

Overall, everything went very smoothly, and we didn't experience any unanticipated complications. The patient returned 72 hours later for a follow-up appointment. During that visit, we made some minor adjustments and took records for a nocturnal orthotic.

In addition, we made a lower bleaching tray so that she could maintain her lowers and have them match closer to her new restorations until she was able to get more cosmetic work done on her lowers.

MY FAVORITE THINGS

Here are some of my favorite products for aesthetic cases:

1. **Telio CS Desensitizer**
2. **Telio CS C&B**
3. **Ivoclean**
4. **Monobond Plus**
5. **Adhese® Universal Vivapen**
6. **Variolink® Esthetic LC**
7. **Liquid Strip**

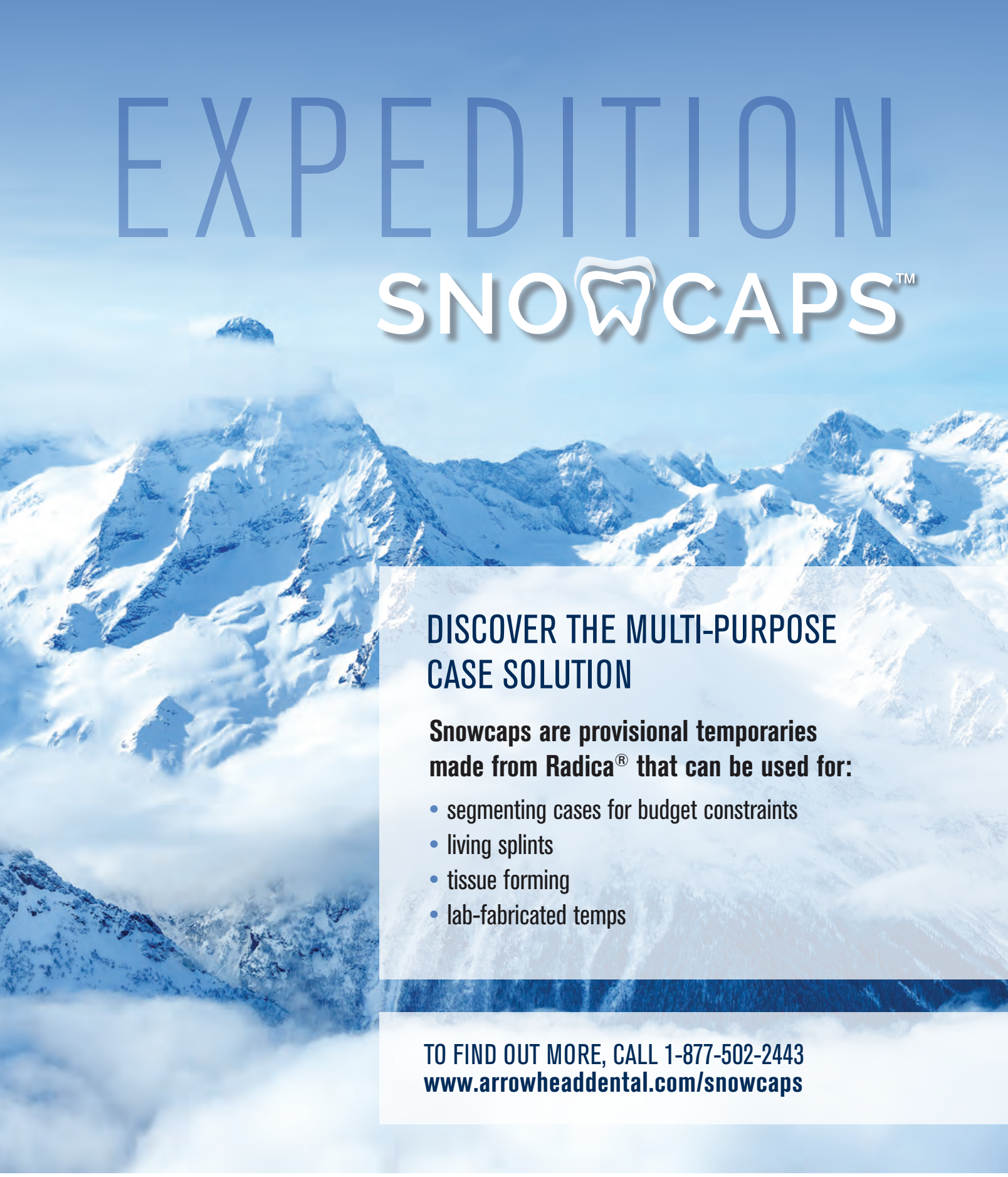
At the end of treatment, we had achieved the patient's goals of making her appear like she had tooth number 7 when there was none, and of giving her a full smile when she thought it wasn't even a possibility.

After we seated the final restorations, the patient could not stop smiling. When she got in her car, we watched her from the office as she called her husband—she was smiling from ear to ear! It's the best feeling to watch a patient's whole demeanor change in your chair in just a matter of a few weeks. ■

Vincent K. Ip, DDS, FAGD, is a graduate of The University of Texas at Austin and received his Doctor of Dental Surgery (DDS) from the New York University College of Dentistry. He is also a Fellow of the Academy of General Dentistry. Dr. Ip owns and practices exclusively at Smile 360 in Austin, TX.

Dr. Ip is a proud member of the following: the American Dental Association, the Academy of General Dentistry, the American Academy of Dental Sleep Medicine, the Academy for Sports Dentistry, and the Texas Dental Association. These organizations, plus his CE hours, keep him current on all of the latest advancements in the dental industry.

Dr. Ip's passion is changing people's lives through their smiles. His best day in the office is watching the first reaction of a patient who has taken the journey with him to reveal a new smile. Find him on Instagram at @smile360atx.



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ARROWHEAD

Simply the Best

4 Steps for Providing 5-Star Dentistry.

At Arrowhead Dental Laboratory, our passion is helping dentists become better and more productive. We want *all* dental practices to succeed and thrive. Success isn't limited to a dollar amount; we want dentists to experience success in their dental practices, success in their clinical skills, success with their practice management skills, and success with their communication and selling techniques. If you're reading this and want to improve in any of these areas, we can help.

Doctors, are you being asked to compromise by patients or dental insurance companies? Do you justify inferior services or products to make ends meet by saying, "It's a business decision"? Do you downgrade treatment plans based on a fear that patients may go somewhere else if they're too expensive? Have you ever put a "W" in a patient's chart to indicate that you are waiting for the dentistry to break instead of advising the patient on preventative treatment?

> All dentists should analyze their businesses and ask, "Are we really offering the best?"

If your answer to any of the above questions is yes, then you may be doing a disservice to your patients and ultimately to yourself as a dentist. Soon, you will believe you aren't the best doctor and it will reflect in all things professionally and otherwise.

How do I know this? Because I've witnessed it every weekend, when doctors at continuing education (CE) courses with the Dr. Dick Barnes Group (DDBG) share stories about the toll such compromises have taken.

All dentists should analyze their businesses and ask, "Are we really offering the best?" If a dental practice offers care based on the dictates of insurance or to please the patient, it might not be so. I've witnessed the consequences of cost-cutting and lower and lower negotiated insurance rates to gain a patient base at the expense of the overall dentistry. I feel it's time for dentists to take a stand. This is a call for dentists to resist the pressure of insurance- or patient-dictated treatment.

STEP ONE: PRACTICE COMPREHENSIVE CARE

To avoid the pressure of insurance- or patient-driven care, the first step is to become comprehensive in your approach to dentistry. The result will be that everyone wins. The dentist wins because he or she is using the best materials, seeing the best possibilities, and treating patients with the best recommendations. The patient wins because dentists are not choosing inferior products or subpar treatments. With comprehensive dentistry, the creed is to "always choose the best."

Comprehensive dentistry is looking beyond the "onesies" and "twosies" and looking comprehensively at the care and wear of a patient's mouth (see *Dr. Jim Downs's story, "Who's the Doctor, Doctor?" on page 38 for more tips on comprehensive care*). It's looking beyond the teeth to what is happening in the muscles, joints, symmetry of the patient's face, ears, eyes, chin, etc.

Most patients don't like to be told they need something done each time they visit the dentist. Instead, dentists should discuss a comprehensive treatment plan with every patient to give them a strategy for good oral health throughout their lifetime.

STEP TWO: ANALYZE INSURANCE AGREEMENTS

The second step is to review all insurance agreements. Dentists can't alter already-negotiated insurance rates, but they can re-evaluate their contracts and adjust them when they are up for renewal. Over the years, dental insurance agencies have often systematically cut costs and offered lower rates to dentists. At some point, it isn't worth it to do business on their terms.

If you feel trapped by a dental insurance contract, read Dr. Gary Nankin's story in the Summer 2019 issue of *Aesthetic Dentistry* magazine (*www.adentmag.com*). Dr. Nankin explains what to do when considering participation with a PPO-provider and how to ensure that the arrangement is beneficial for the dental practice.

Insurance plans will always have a place in a dental practice—primarily to introduce new patients into the practice. Just as marketing will bring patients into the practice, dentists need to analyze their budgets and margins to make sure insurance participation is an advantageous arrangement.

Usually it's not advisable to drop all insurance plans and become an entirely fee-for-service practice. Completely eliminating insurance payments can leave gaps in the schedule and misunderstandings with some patients.

However, as a dental provider, never let insurance be the reason that a patient accepts treatment. Instead, pledge to do the best dentistry for the patient regardless of his or her insurance benefits. Let the patient know what the ideal treatment plans are, and always use the best materials. High-quality materials will withstand the test of time, and patients will notice and appreciate it.

STEP THREE: KNOW GOOD INSURANCE RATIOS

To stop being an insurance- or patient-driven practice, it's important to understand and have a healthy collections ratio of private payments versus insurance payments. Before Tawana Coleman, the retired Total Team Training instructor, would visit any practice for a private consultation, she would review these numbers with them to give her an idea of where the office was in terms of insurance collections.

As a dental provider, never let insurance be the reason that a patient accepts treatment. Instead, pledge to do the best dentistry for the patient regardless of his or her insurance benefits.

A good goal to work towards is collections of 80 percent from private payments, and 20 percent from insurance. This is an ideal ratio for a comprehensive dentist. Dentists can increase their production per hour by treating the full mouth.

STEP FOUR: USE THE BEST MATERIALS

Do you currently know what materials you are putting in your patients' mouths and where those materials are from? The U.S. Food and Drug Administration (FDA) regulates quality assurance and materials. To find high-quality materials, look for ones that are made in the U.S.A. and are FDA-approved. Yes, ›

it might make costs go up somewhat, but the end result will be worth it. At Arrowhead, it's a standard that we're not willing to compromise on.

In my job as Director of Business Development for Arrowhead, I'm the first point of contact when practices inquire about a lab partnership. Many times, a dental assistant initiates the first conversation. When I ask why they are considering our lab, they often candidly say, "I don't think that what we are using is acceptable. It looks cheap. It doesn't fit. It's time we start using something better."

It's important for all dental practices to understand and have a healthy collections ratio of private payments versus insurance payments.

In our trainings with dental teams, we teach that the first thing to communicate to a new patient inquiring about dental services is the assurance that they've called the best provider. If your dental team can't comfortably tell patients, "You've called the best, and in my opinion, you've never had a crown as good as this doctor can provide," you've devalued everything to a point that you probably shouldn't comfortably charge what you do.

I remember conversations with some dentists who said that if their restorations didn't hold up for the five-year replacement clause, they would remake them with no questions asked. I'm not a dentist, but I've been told that replacing a restoration every three to five years may actually weaken the structure of a tooth, and could contribute to the degradation of the tooth faster than a high-quality material or a good-fitting crown.

Rather than risk a poor-quality restoration breaking, why not ask patients if they prefer the best material? The answer may surprise you.

Some dentists justify using inferior materials by saying, "Why does it matter what the quality is if the restoration is in the posterior areas of the mouth?" You will always win with the best quality in every area.

MY EXPERIENCE

I've had Elite veneers on my teeth for 12 years, and not one has de-bonded, cracked, or needed replacement. I can recommend Elite restorations because I know what they've done for me. I've witnessed the high-quality materials and skilled craftsmanship that went into my restorations.

Have they lasted longer than what "insurance deems necessary"? Absolutely! Do your products outlast these clauses? If so, that's a built-in value that patients are willing to pay extra for. How can you have patients pay the extra costs? Your practice may be able to utilize upgrade and rehabilitation fees. If I ever needed another set of veneers, I would gladly pay for a second set of Elites, based on my own experience.

To illustrate the fallacy of compromising on quality, Tawana used the example of a patient needing a heart stent. If the cardiovascular surgeon suggested saving a little bit of money on heart surgery by providing an inferior stent that "mostly" worked, do you think most patients would go for it? Or worse, would the doctor use an inferior product without the patient being aware of better alternatives available? Of course not.

To offer the best dentistry for your patients, here are my top tips:

TIPS FOR THE BEST DENTISTRY

1. ***Understand your fee per hour.*** Do you know how much it costs your practice per hour to keep the doors open and the lights on? If you know how much it costs to run the practice on an hourly basis, you can better determine whether the insurance payout is enough. Don't get caught in the trap of agreeing to insurance rates to attract new patients if the numbers just don't add up. You could end up losing money.

2. ***Manage usual, customary, and reasonable (UCR) rates.*** Is your practice on the low or high end of the range for your area? Some companies offer a practice analysis on UCR rates so you can learn if your fees are high or low for your area. Consider raising fees if you aren't staying ahead of the curve.

If you are operating in the low end of the range, how are you making up the difference? Speed? Hygiene? More crowns per hour? Fillings? Our recommendation is that recare should pay for everyone's salaries, excluding the doctor's.

3. ***Make insurance propositions a win-win.*** Here are some tips on how to be more selective with insurance partnerships.

- ***Negotiate all fees.*** Never accept the first plan that insurance companies offer. Many times they will come back with an additional two or three offers at better rates if dentists don't accept the terms of the first offer.
- ***Make a schedule and know when insurance contracts are up for renewal.*** Don't automatically renew any contracts without reviewing the terms and re-negotiating. If

TIPS FOR OFFERING THE BEST

1. **Understand your fee per hour.**
2. **Manage usual, customary, and reasonable (UCR) rates.**
3. **Make insurance propositions a win-win.**
4. **Participate in CE.**
5. **Consider in-house membership plans.**
6. **Use rehabilitation fees and material upgrades.**

you prefer to outsource this job, there are companies that will negotiate and manage your contracts. Keep in mind that there are fees for outsourcing.

- ***Analyze all insurance collections and write-offs.*** Knowing your practice's numbers will help determine if an insurance plan is worth keeping or not. Be wary of any insurance plan that dictates inferior treatments for your patients. Also, when considering dropping any insurance, allow patients time to adjust to the changes. Most patients will stay loyal to your dental practice if you courtesy bill for reimbursement, but only after you have developed a relationship of trust and dedicated care.

If doctors commit to offering the best treatments and the best dentistry, they will make arrangements with insurance companies that will benefit both patients and dentists.

4. Participate in CE. To obtain better skills, faster speed, and improved communication, make participating in CE a lifelong quest. The more experience and education you gain, the better you become as a practitioner.

5. Consider in-house membership plans. These plans are growing in popularity within the dental community. I offer several samples of plans that dentists can review, and they can easily launch one that's right for their needs. In addition, you can outsource the management of such plans to third parties. Remember, production isn't production until services are rendered, so keep services "scheduled for production" in a different ledger and move them as they are completed.

6. Use rehabilitation fees and material upgrades. Always consult your legal advisor to make sure you understand the state laws on these contracts, but rehab fees can be a great way for dentists to make up the difference in fees for comprehensive dentistry. Upgrades and warranties can be offered to patients to give them the best dentistry. Feel free to contact me directly for advice, or see Ben Tuinei's article, "Playing to Win" in the Winter 2019 issue of *Aesthetic Dentistry* magazine *(www.adentmag.com)*.

If doctors commit to offering the best dentistry, they will make arrangements with insurance companies that will benefit both patients and dentists. If properly evaluated and negotiated, insurance benefits can work to everyone's advantage—with the best treatments always offered to all patients.

We believe that it's vital to take a stand and commit to offering only your best dentistry. When you do, you will believe in your work and you will feel more capable at providing solutions for your patients.

We believe that it's vital to take a stand and commit to offering only your best dentistry. When you do, you will believe in your work, you will feel more capable at providing solutions for your patients, your team will exude confidence in your skills and services, and that confidence will be apparent in everything you do. There are no shortcuts and no compromises. Just do the best—every day. ■

Peggy Nelson has worked in the dental industry for nearly 25 years. She currently works at Arrowhead Dental Laboratory in Salt Lake City, UT, where she has been the Director of Business Development for the past 10 years. Prior to having her current responsibilities, Peggy worked at Arrowhead as a manager for the Doctor Relations department, and as a doctor relations account rep. In addition, Peggy worked in dental sales and office management for a dental group in California.

Originally from the San Francisco Bay Area, Peggy received a bachelor of science degree in business management from Brigham Young University in Provo, UT. She also completed the requirements for the AchieveGlobal® Professional Selling Skills® certification and the SPIN® Selling certification. Peggy's areas of expertise include practice management and team training, and she is passionate about helping to deliver life-changing dentistry for patients. Peggy can be reached at pnelson@arrowheaddental.com.

2 New Guides!

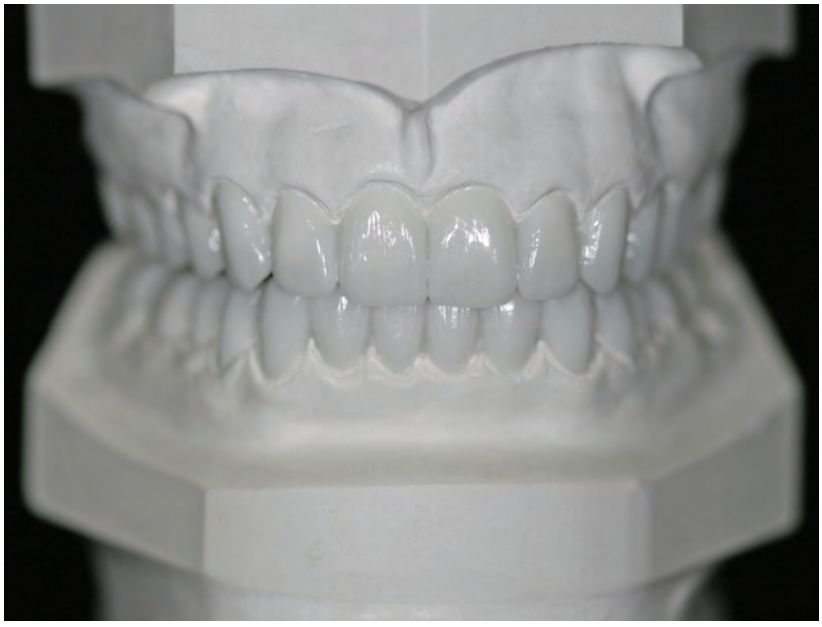
Don't Go It Alone

Innovative Products to Make Advanced Cases Easier.

According to some estimates, as many as 70 percent of practicing dentists have never done a full arch reconstruction (FAR) in one seating. Since it can be a life-changing procedure for the patient and a good business proposition for the dental practice, the question is, why?

The most important message I can convey is that help is available for all dentists.

After working for several years with dentists on advanced cases, I think that some dentists never attempt a FAR primarily because of fear. New dentists (and even some seasoned ones) worry that they might not have the skills that are needed to deliver the best possible outcome. Sometimes, dentists are overwhelmed by



(Above) A White Wax-Up.

the learning curve of the task, but they fail to fully understand that there are ways of making such a complex undertaking much more simple.

Other dentists are concerned about the sheer number of teeth they would have to restore with such a procedure. And still other doctors are reluctant to try a FAR case because they worry there will be a lot of maintenance issues down the road. However, maintenance issues sometimes happen because a doctor didn't adequately address a problem, such as the occlusion, at the outset.

YOU'RE NOT ALONE

The most important message I can convey is that help is available for all dentists. New and improved dental tools (such as electric handpieces and lasers), specific guides (including the ones described in this article), and assistance from lab technicians and other experts can supplement a dentist's knowledge while he or she is learning new skills.

Expert technicians are trained to identify and resolve a case's weak spots, and they can help doctors use the latest guides for top-level outcomes. As a technician, part of my job is to advise doctors about how to start and complete a full mouth reconstruction case.

At Arrowhead Dental Laboratory in Salt Lake City, UT, we've developed a system of products that gives dentists a recipe for success. This "recipe" is like a checklist of steps that, if followed correctly, will help dentists confidently predict and achieve the desired outcomes. Yes, dentists need to allow some room for the minor variations that they will encounter with each patient, but it's basically the same process for everyone. Therefore, this system of guides can be used on all FAR patients to simplify and elevate the process.

TOOLS OF THE TRADE

Before starting a full mouth reconstruction on a patient, all dentists should invest in the proper tools and learn how to use them correctly. Some dentists are somewhat slow at prepping. All dentists should examine how long it takes to prep a tooth, and then ask themselves why it takes that amount of time.

5 PRODUCTS FOR FULL MOUTH RECONSTRUCTION

- **White Wax-Up**
- **Tissue-Contouring Guide**
- **Reduction Guide**
- **V-Bite or Sil-Tech® Bite**
- **Sil-Tech® Matrix**

(Above) New for 2020: A Tissue-Contouring Guide.

Slower than average times may be due to the fact that a dentist is using a less-efficient instrument, like an air-driven handpiece. Many dentists are comfortable with air-driven handpieces because that's what they are taught to use in dental schools.

Electric handpieces have so much power, however, that they reduce the time needed to prep. Electric handpieces *are* initially more expensive than air-driven handpieces, but because they save chair time during prep, they actually save the doctor time—and therefore money. In the Beyond the Basics course with the Dr. Dick Barnes Group (DDBG), we teach doctors efficient ways to prep with precision and various techniques for achieving better speed and accuracy.

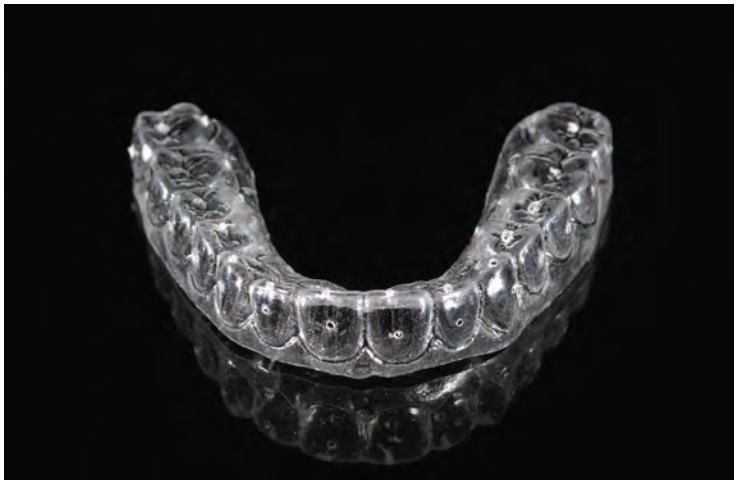
Dental tools, specific guides, and assistance from lab technicians and other experts can supplement a dentist's knowledge while he or she is learning new skills.

Other important tools that help doctors with comprehensive dentistry include a dental laser for soft tissue contouring (see *Dr. Jim Downs's article, "Framing the Picture," in the Summer 2018 issue of* Aesthetic Dentistry) and a T-Scan® by Tekscan®—a digital analysis system to evaluate occlusion. The T-Scan® can be used for pre-op evaluation of occlusion and of bite force and timing. It is a must for dialing in and protecting the patient's restorations.

A well-equipped armamentarium helps in the elevation of every full mouth reconstruction case. Such tools give dentists more precision, offer more efficient chair time, and lead to superior results.

THE SYSTEM

As mentioned, Arrowhead Dental Lab has created a system of guides to help with FAR cases. These guides function great independently, but when used together and in the proper sequence, they lead to the best possible results. They were developed specifically to help dentists dial in their full arch and full mouth reconstruction cases. Two of the guides (the tissue-contouring guide and the V-Bite) are brand new for 2020! ›



(Above) A Reduction Guide.

Here's the system and sequence that we recommend:

The White Wax-Up

A White Wax-Up is a stunning 3D model that not only shows the optimal clinical diagnostics of a reconstruction case, but also shows a beautiful simulation of the final result. With any comprehensive case, start by asking the patient such health questions as, "How well do you sleep? Do you snore? Do you have headaches, neck aches, or back aches?" By understanding a patient's symptoms, dentists can learn if occlusal or sleep issues are contributing to the problem. With comprehensive dentistry, dentists can improve their patients' quality of life and give them an aesthetic smile at the same time.

At Arrowhead Dental Laboratory, we have developed a system of guides for full mouth reconstruction cases.

Showing each comprehensive patient a White Wax-Up is important. With this tool, the case for better health can be made and it can be tied to cosmetic improvement. A White Wax-Up also allows everyone—doctor, patient, and lab—to visualize the case and test it from different perspectives. It's the equivalent of a blueprint for the new smile (see *photo on page 24*).

The Tissue-Contouring Guide

A key part of the full mouth reconstruction (and one that is sometimes overlooked) is tissue contouring. Also called gingival contouring, it is vital to the aesthetic outcome of every comprehensive procedure. This new product (see *photo on page 25*) shows dentists how soft-tissue contouring can visibly accentuate the results of the procedure.

Without a reference guide, dentists often verify symmetry by stretching a piece of floss from canine to canine to check that the gingiva is even, then blanching tissue, and then getting a grease pencil to outline where to go with the laser. With this method, dentists may end up skipping the premolars because of time constraints—the entire process takes about half an hour.

With a tissue-contouring guide, tissue contouring can be done in as little as five to ten minutes. The dentist follows the exact contouring on the White Wax-Up itself. (Arrowhead uses a scan of the wax-up to build the tissue-contouring guide.)

The tissue-contouring guide is worth every penny because the gingiva is visible to patients and doctors alike. If dentists don't sculpt the tissue correctly, it throws off the symmetry and the contouring of the crowns.

Every patient wants amazing results, and tissue contouring is an essential element to the overall outcome. Dr. Downs calls the gingiva the "frame around the picture." Without attention to this part of the case, the result can look incomplete.

I rarely see a wax-up of a case that couldn't improve with some gingival contouring. Even if the patient's smile doesn't really show the gingiva, dentists still have to pay attention to it, because the patient will notice it. Everything is interdependent.

The Reduction Guide

The reduction guide does exactly what its name suggests—it shows dentists how much of a tooth to reduce, indicating where there should be more reduction on some teeth and less on others. It is a clear stent that is placed over prepped teeth to verify that sufficient reduction has been achieved.

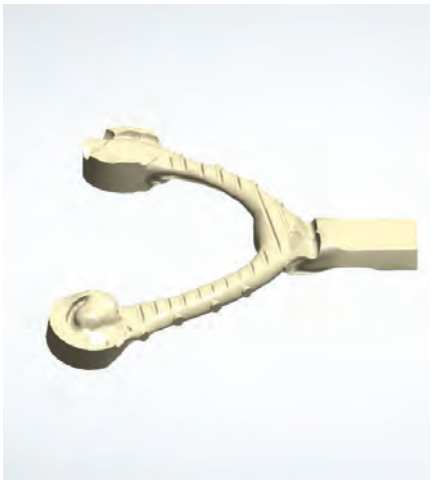
The design of the stent includes perforated holes to probe tooth surface thickness and confirm that reduction has been achieved according to industry standards. The White Wax-Up includes cast models of prepped teeth that act as an aid to the clear reduction guide in determining appropriate angulation. As such, it can help clarify possible problems in the case.

The reduction guide can help increase a dentist's confidence with prepping, and it also ensures that reduction spotting at the time of seating won't be necessary for the best aesthetics. The reduction guide allows dentists to prep effectively and accurately on the first attempt. It takes the guesswork out of prepping, providing a jig that brings accuracy and consistency for the best results (***see photo, above***).

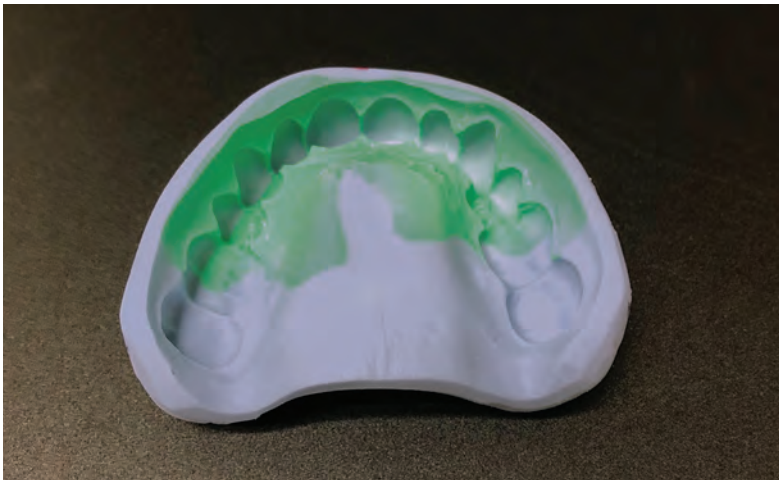
The V-Bite or the Sil-Tech® Bite

During the past several months, Arrowhead has been developing a new tool called a V-Bite, which is launching at the Chicago Dental Society Midwinter Meeting in February 2020. The V-Bite creates a stable platform for patients and is an alternative bite tool. It's designed as a tripod system—with platforms for the second molars or most distal tooth, and a platform for tooth numbers 8, 9, 24, and 25 (see *image on page 27*). When the patient closes, the V-Bite holds the vertical and the anterior-posterior positions. Dentists can see that the V-Bite is in place, measure and verify the Shimbashi or VDO (vertical dimension of occlusion), and reline over a bar with bite registration.

Because of its precision, the V-Bite is verifiable every time. Whether or not the patient's muscle memory is intact (sometimes it isn't—for example, when the patient is numb), or whether or not a patient's jaw deviates when closing, the dentist



(Above) Coming soon: Arrowhead's new V-Bite (rendering).



(Above) A Sil-Tech® Matrix.

will have a hyper-accurate baseline against which he or she can build everything else.

Why is this so important? If the baseline is off even by a millimeter at the beginning of the restorative process, the dentist will get a translational error in each subsequent step, and he or she will start "chasing the bite" as the case progresses. It's usually possible to eventually get it perfect again, but it's a significant timesaver to have it correct from the outset. The V-Bite complements and verifies placement.

If a patient has minimal vertical increase, or an unusual occlusion, it may be advisable to use the Sil-Tech® bite instead of the V-Bite. The Sil-Tech® bite is guide that can be used on every case with a vertical increase. It adapts to all types of occlusal situations. It is the standard for capturing and transferring an accurate record for a full arch or full mouth verticalizing restorative case.

This bite is made to the same vertical and anterior-posterior position that is established through splint therapy. Dentists follow the tripod technique that Dr. Jim Downs teaches at the FAR, Everyday Occlusion and Clinical Hands-On continuing education (CE) courses with the DDBG. The Sil-Tech® bite is included with the White Wax-Up in every verticalizing case.

The Sil-Tech® Matrix

Arrowhead's White Wax-Up includes a Sil-Tech® matrix so that doctors can make chairside temporaries. The purpose of the Sil-Tech® matrix is to essentially replicate the White Wax-Up in the patient's mouth as a trial of the final restorations, and to accelerate the process of fabricating and placing the temporaries.

It's designed with a bead around the gumline to minimize the flash from the temporary material, and also to shorten the clean-up process. The Sil-Tech® matrix allows dentists to quickly fabricate a full arch of temps and do a test drive of them (see *photo, above right*).

RECIPE FOR SUCCESS

Part of my job is to foresee any issues and guide doctors through the process so they won't have problems as the case progresses. I help ensure that each case goes smoothly. I encourage my team members to point out any potential red flags with each case, because the technicians' knowledge is a key component of the Arrowhead system.

When doctors use all that Arrowhead provides, including skilled technical support, the outcome is excellent. As doctors advance their skills, I encourage them to stay in touch with their mentors and Arrowhead's team members.

If you want to do a full arch restoration, I say, do it! Start with the right tools—literally and figuratively.

If you want to do a full arch restoration, I say, do it! Start with the right tools—literally and figuratively. Take the DDBG courses or other CE courses to improve your skills, and use the tools and guides designed to make the process more predictable.

Don't hesitate to lean on technical support, because that's what we're here for. We will help you develop a detailed, integrated plan for each of your cases. At Arrowhead, it's part of our system of guides, which was designed so that full mouth rehabilitation could be predictable and replicable, while offering the highest aesthetic outcomes possible. ■

Kent Garrick is the Director of Technical Services at Arrowhead Dental Laboratory, where he has worked for 28 years. He specializes in assisting dentists in comprehensive case design and in evaluation sections with the Dr. Dick Barnes Group CE courses.

Prior to being in his current position at Arrowhead, Kent worked at two other dental labs, where he gained valuable technical experience. He also studied business management at Dixie State University in St. George, UT.

Kent currently lives in Draper, UT, with his wife and two sons.

The Power of Dentistry

It's Not Just Treatment—It's Changing Lives.

Most people who choose a medical profession as a career do so because they are drawn to the idea of helping people. In my case, I wanted to help people with their oral health. The longer I work in this industry, and the more I learn, the more it seems I still need to learn. Learning opens my eyes to all the possibilities.

The longer I work in this industry, and the more I learn, the more it seems I still need to learn. Learning opens my eyes to all the possibilities.

When I graduated from dental school, my practice was limited to doing basic fillings and the general standards of care. Today, diagnosing a full arch or full mouth rehabilitation case is a fairly routine experience. It's part of my journey. My goal in practising dentistry now is to change someone's life, not just improve his or her mouth.

Patients often visit my practice and say, "I feel like my smile doesn't fit who I am anymore." I quickly notice that their teeth are worn away or sometimes even missing, and it changes their appearance and, more importantly, the way they feel about themselves.

Our society has always made judgments based on appearance, and it's more prevalent than ever with social media. Patients with less than optimal dentition can develop a psychological barrier because of their smiles. They can become self-conscious and often don't experience life to its fullest.

As a dentist, I can help to remedy the problem of missing or worn dentition. Helping someone with this issue can change a patient's self-esteem, and from there, that patient has the confidence to advance towards greater opportunities and experiences.

Dentistry is what opens up an individual's possibilities. As dentists, our mission is to give people hope in their current circumstances. Everyone deserves a chance to change their pattern and life path.

In my practice, we talk about this mission a lot. We have a bulletin board in the back room that's just for our team where

(Above) At Legends Dental, a bulletin board inspires and motivates team members.

we place photographs and thank-you notes from some of our cases. At the end of the year, we remove everything from the board and start the new year with a clean slate. By year's end, it's covered with images and notes from patients who want to express their appreciation for our efforts.

We don't show the bulletin board to the patients, but my team members pass by it as they enter or leave the building. It is a constant reminder of what we do and why we do it.

If a team member is having a bad day, I ask them to look at the board and read what people have said about our work. It reminds us how important our daily tasks are and what they mean to our patients.

When team members get excited about what they are doing, it connects with patients on a deeper level. At that point, it's not about cost anymore. For the patient, it becomes, "How do I make this fit into my life?" Once that perspective has changed, patients don't view dental care as an expense. They see it as an investment in themselves.

(Above) Before, full face view.

With permission from our patients, we display photos of completed cases on the walls of our practice. Recently, we did a case in which the patient wanted treatment because of the photos he saw.

With every new patient, we try to understand his or her personal story. Once we understand it, we can figure out how to give the patient hope. If we don't do that, or if we rush through the process, it never works well, and the patients aren't satisfied.

If dentists establish a caring, hopeful culture in the dental practice, however, it's no longer about selling dentistry. It's about improving patients' lives. And that's much more fun than drilling and filling holes all day long.

A FEBRUARY DAY

In the Full Arch Reconstruction (FAR) course with the Dr. Dick Barnes Group (DDBG) in Salt Lake City, UT, dentists learn that they should do their first full arch case on a day when no one else is in the office. That way, they can focus on the protocols and the procedures that were taught with no distractions. After performing this procedure numerous times, I can now work such cases into the normal workday, because I know all the steps and protocols so well. ›

Recently, we did a case in which the patient wanted treatment because of the photos he saw displayed on the walls of our practice. Such cases sell themselves once patients realize what's possible and dentists educate them about how it can be done.

This particular case did not require the patient's whole mouth to be rebuilt because his problems were mainly in the anterior aesthetic areas (see *photos on page 29 and below*).

When team members get excited about what they are doing, it connects with patients on a deeper level. At that point, it's not about cost anymore.

I had known this patient for years, and he viewed his case primarily as an aesthetic one. However, I viewed his case as a functional one because of the way he had abused his teeth. From my perspective, the aesthetics were a secondary benefit. The functional issues stemmed from attrition and erosion due to a history of chewing tobacco for about 30 years.

In addition, the patient was a bruxer, and he had flattened his front teeth. Nonetheless, his vertical in the posterior was still within the Shimbashi rules of normal (16–21 mm), and he was asymptomatic in his joints and ligaments.

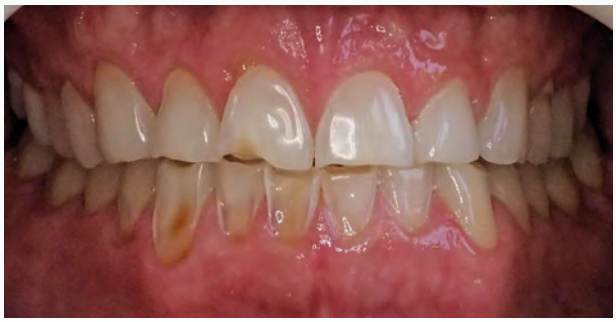
He is a good-looking guy, but his teeth didn't match his appearance and great personality. Fixing his teeth made an impressive and noticeable difference. His was not a basic procedure. It was a very advanced one, and some dentists might not have diagnosed it because there was no decay and the patient had no symptoms.

This case would have been overwhelming to me 18 years ago. But on the day we did the treatment, it was fun—exhilarating even.

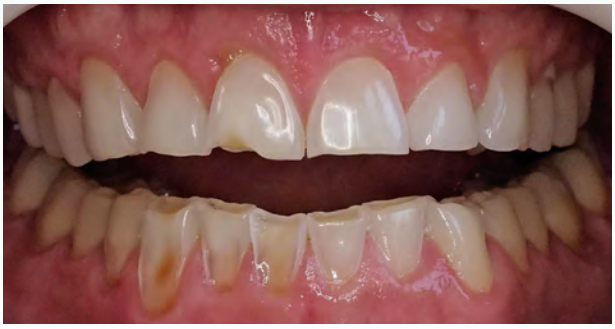
It was a cold Friday morning in February, and my dental assistant, Jenny, and I were the only ones working because the office was closed. The sun was shining, the phones weren't ringing, and the music playing through the speakers was perfect because I chose it. It was an ideal day to do dentistry.

We did the patient's uppers and lowers on the same day. Using the White Wax-Up from Arrowhead Dental Laboratory, we started treatment: 14 units total, 8 on the uppers, 6 on the lowers. It was so energizing to whip out 14 crown preps like it was nothing.

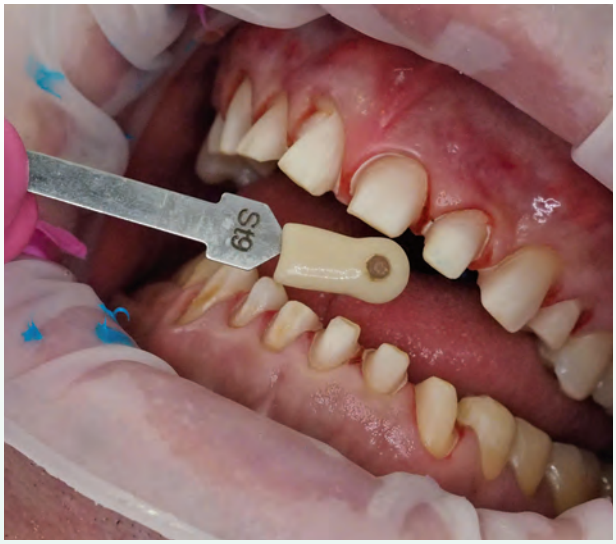
While I was working, it occurred to me that a case like this was once a super stressful, difficult thing. And yet we did the prep appointment in about two-and-a-half hours. Everything went smoothly. The temporaries went right in, and they looked great. He was happy. We were happy. That's when it hit me how far I had come.



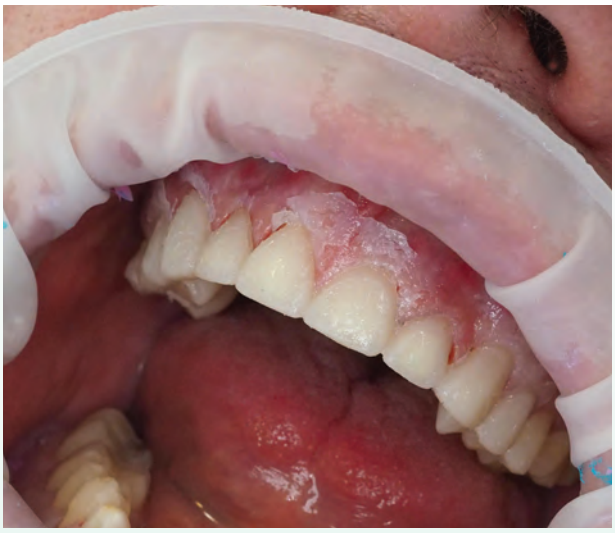
(Above) Before, full retracted view, biting.



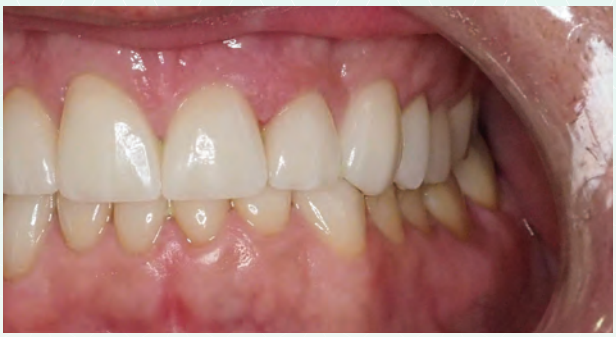
(Above) Before, full retracted view.



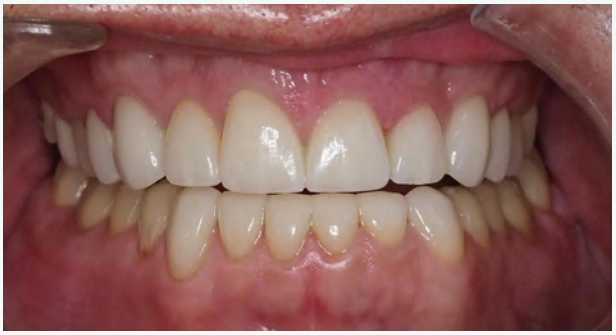
(Above) Finished prep design and dentin shade matching.



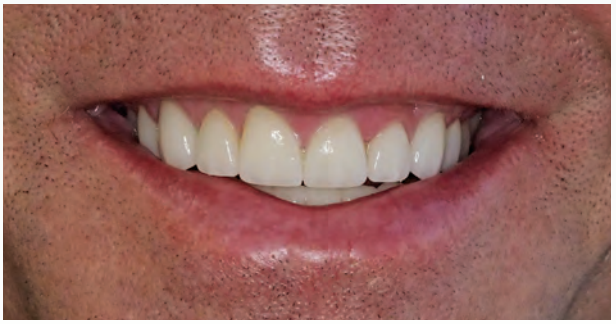
(Above) Temporary crowns just out of the Sil-Tech® stent (non-adjusted).



(Above) After, closeup view.



(Above) After, retracted view.



(Above) After, maxillary view.

A STEADY PROGRESSION

I started my practice, Legends Dental, in Lawrence, KS, immediately after dental school. At the time, I worked in my practice only twice a week, and on the other days I worked in different practices so I had at least some guaranteed income.

One day, I came across a wax-up sitting on the counter in one of those offices, and I was blown away. Until then, every wax-up I had seen was on yellow stone and the teeth were either blue or green wax. But this thing was beautiful! It was on polished ortho stone and even the teeth were white! I'm kind of a dental geek, and it was the coolest thing I had ever seen. I decided to find out who had done the wax-up, and that was my introduction to Arrowhead Dental Lab about 18 years ago.

As a young dentist at the time, all I knew was what I had learned in dental school, which, looking back, wasn't much more than the basics. I have to give props to my alma mater, Creighton University in Omaha, NE. They taught me the basics well. From then on, however, I was on my own—my own gumption, and my own dime. I eventually learned a few key principles that helped me get where I am today. Here's what I learned:

1. Invest in continuing education (CE). Early on, I jumped into taking CE courses with the DDBG, and everything I learned there built on what I had learned in dental school. I fell in love with that way of learning. I returned home from CE courses with renewed excitement, motivated to take more and more courses. I started trying to take at least two big courses a year, and I have done that for 18 years.

Today, I attend CE courses all over the country, and I have even started to look at some courses in other countries. As I keep learning, I discover how much I still don't know.

CE has helped me build my practice from a general practice to one that does full arch and full mouth rehabilitations, extractions, bone graftings, implant placements, and immediate load surgery. In 2019, I did almost 60 arches of fixed full arch implant prostheses. It's a different practice than I ever imagined when I graduated from dental school.

My patients have also motivated me to keep learning. Several times, patients have visited our practice and asked whether I could do a procedure that they had read about. If I say that I don't know it, they tell me to go and learn it, and they will wait until I can do it. When I went to my first implant course, I had about 20 patients waiting for me to do an implant on them, which was an amazing feeling of acceptance and confidence in my work and philosophy.

2. Involve your team members. After taking CE courses on my own, I soon realized that I needed my team members to learn as much as I did. I could learn the parts that involved me as the doctor, but when I came back to the office, I didn't always remember what the assistant was supposed to be doing.

When they attended the courses with me, they could watch and learn their parts. Then when we returned to the office together, it was much easier to implement the new skills.

I soon realized that I needed my team to learn as much as I did. I could learn the parts that involved me as the doctor, but when I came back to the office I didn't always remember what the assistant was supposed to be doing.

Change isn't easy. Adding new skills and procedures isn't easy. It's particularly hard on hygienists because they have to understand how to explain the new procedure to patients in such a way that it sounds attractive to them. When the doctor is the only one who can explain it, it's pretty tough to work that conversation into a hygiene visit—especially when you have only a couple of minutes and three patients waiting.

I suppose every doctor has gone to a CE course, learned something amazing, and returned to his or her practice anxious to implement the new ideas. But it only takes about 10 minutes at the office before reality sets in—a patient is late for a ›

restorative appointment, an emergency gets added to the schedule, the hygienist is pacing in the hallway—and it's easy for a dentist to get caught up in these things and never get around to teaching the team what he or she just learned. It can make CE courses feel like a waste of time, energy, and money.

With every new patient, we try to understand his or her personal story. Once we understand it, we can figure out how to give him or her hope.

3. Create your own opportunities. I discovered that if I wanted to implement a new skill, I had to create my own opportunities. If I learned about a new procedure and knew that a patient could benefit from it, I would schedule a meeting with my team soon after I returned from the course. If I wasn't intentional, I could easily brush aside what I had learned and keep going in the same direction as before.

THE FUTURE

At this stage in my career, my goal is to find an associate and bring him or her on board for training in a true apprenticeship situation. My plan is for the associate to master general dentistry, and then move on to advanced cases. That way, I can focus on doing more of the surgical procedures and the implants that I have learned to love.

To my colleagues in the dental industry, we should be proud we are in a profession that gives us enough latitude to experience more than we were originally taught. The thing no one can replicate is you. Be the best version of yourself possible. You don't have to be perfect, but you should be progressing. Yes, it requires stepping outside of your comfort zone. It requires discipline, hard work, and passion for the profession. But it also requires balance in order to have a life, a family, and a successful business.

Don't settle for replicating what you did last year, or even over the last 10 years. Turn your challenges into opportunities. Look for the things you love about dentistry and do just those. Do them to the best of your ability, and when you look back at the end of 2020 you'll be amazed at how far you've come. To quote the great Tawana Coleman, the "queen" of Total Team Training seminars, "the best is yet to come."

I've been doing dentistry for 18 years, but in some ways it feels like I just started. What used to be extremely advanced seems basic to me now. It's a progression that I wish for every dentist who wants to improve the lives of his or her patients. I can't wait to see what's next. ■

(Above) After, full face view.

Dr. Ryan L. Brittingham earned a B.A. in Human Biology at the University of Kansas in Lawrence, KS. He then went on to earn a Doctor of Dental Surgery (D.D.S.) degree at Creighton University School of Dentistry in Omaha, NE.

Dr. Brittingham maintains a family-oriented practice, Legends Dental, in Lawrence, KS, with an emphasis on comprehensive oral health care and aesthetic dentistry.

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IPS e.max® ZirCAD® Prime

A New Era in Dental Ceramics.

Dentists have been increasingly requesting zirconia as an alternative to porcelain-fused-to-metal (PFM) restorations, and more recently to glass ceramic restorations as well. In particular, for more than 15 years, zirconia has been used for fabricating restoration frameworks because of the material's versatility in mechanical and physical properties, which has allowed clinicians and laboratory technicians to use it for various clinical indications.

Many dentists have questions about dental zirconia materials, and confusion is common.

Differentiated by a number of factors—including composition, mechanical characteristics, and optical properties—today's new zirconia materials enable dentists and laboratories to choose among options that can be milled to full contour, demonstrate acceptable aesthetics, and offer translucency suitable for clinical situations that are ideal when high mechanical stability, thin restoration walls, and natural aesthetics are essential.

QUESTIONS ABOUT ZIRCONIA

Many dentists have questions about dental zirconia materials, and confusion is common. Is it zirconium or zirconia? Is zirconia a metal? What do we use in dentistry? Dental zirconia (ZrO_2) is the oxide version of zirconium (Zr). Zirconium occurs in nature only as a mineral, mostly as zircon ($ZrSiO_4$), and is a soft, ductile, shiny-silvery metal, optically similar to aluminum foil.[1,3] To produce dental zirconia, zircon is purified via complex production and purification processes, and then converted into synthetic zirconium precursors that are transformed into ZrO_2 through thermal and mechanical processes. These are the only synthetic powder components that are used to make dental zirconia.[1-3]

Zirconia is polymorphic ceramic; meaning, depending on temperature and pressure, the same elements of the material exist in three different crystal structures, including monoclinic (m), tetragonal (t), and cubic (c). (*See Figure 1, below.*) Pure monoclinic zirconia, the most stable phase, is present at room temperature. However, this phase has the weakest mechanical properties, and hence can be milled fast and efficiently without damaging milling machines and tools.

At about 1170° C, the monoclinic phase transforms into the tetragonal phase, with an approximately 4% to 5% volume shrinkage. At about 2370° C, the tetragonal phase then converts

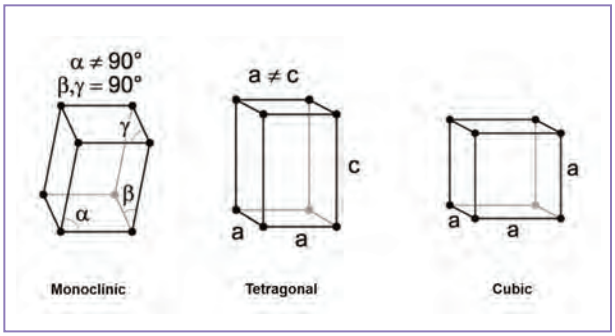


Figure 1

into the cubic phase. These transformations occur within a temperature range, not at a specific temperature, and involve movement of atoms within the crystal structure.

The tetragonal and cubic phases of zirconia can be made stable at room temperature by incorporating additional components (dopants) such as yttrium oxide (Y_2O_3), calcium oxide (CaO), or magnesium oxide (MgO) into the ZrO_2 crystal structure to form partially or fully stabilized zirconia.[1-3]

> It is critical for both clinicians and dental laboratory technicians to consider the differences in properties among zirconia materials when selecting the ideal zirconia for a specific clinical indication.

Without the addition of these dopants, tetragonal crystals convert back into monoclinic below 950° C, and hence cannot be used clinically. (*See Figure 2, above right.*) Low amounts of these dopants lead to partially stabilized zirconia, with mainly metastable tetragonal and cubic phases.[1-3] The quantity of dopant in molar concentration used in a zirconia is abbreviated as, for example, 3Y-TZP for 3 mol% Y_2O_3, 4Y-TZP as 4 mol% Y_2O_3, or 5Y-TZP as 5 mol% Y_2O_3. When approximately 4.5–6 wt% (3 mol% or 3Y-TZP) yttria is added to a structure, a 100% tetragonal phase (traditional dental zirconia) can be produced at room temperature.

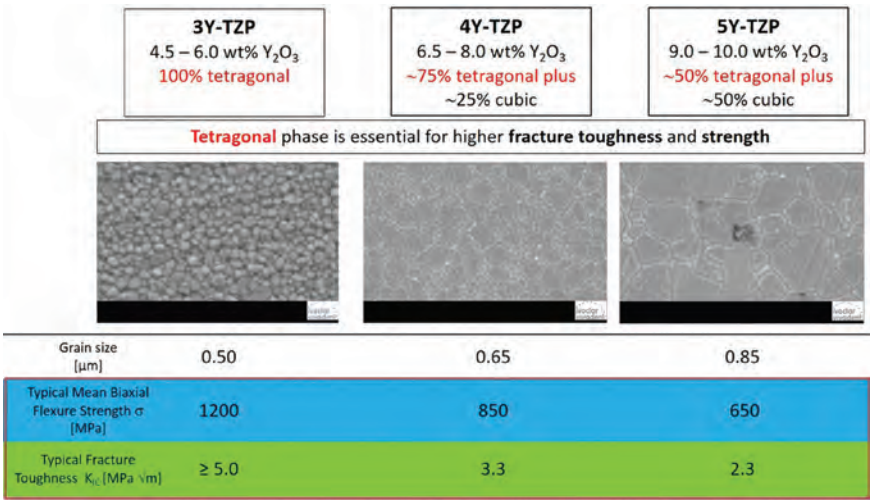


Figure 2

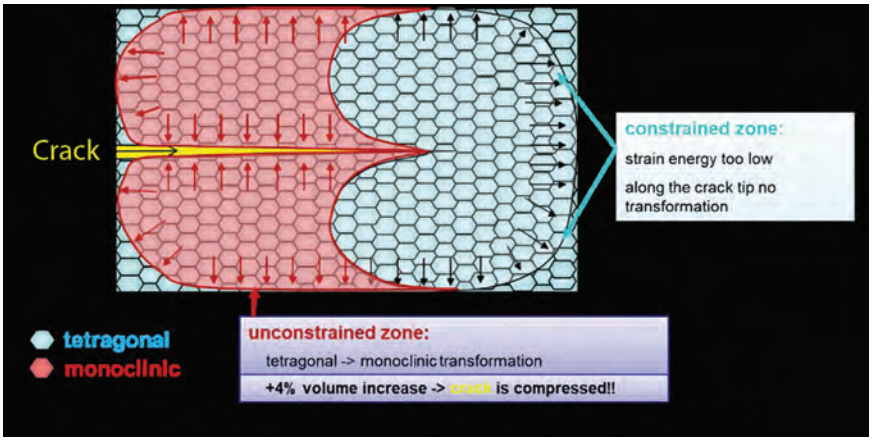


Figure 3

When approximately 9.0–10.0 wt% (5 mol% or 5Y TZP) yttria is added, a structure of 50% tetragonal/50% cubic phase (known as cubic or HT zirconia) can be produced at room temperature. When these powders are mixed, an approximately 6.5–8.0 wt% yttria containing zirconia can be produced (4 mol% or 4Y TZP), giving a microstructure of 75% tetragonal and 25% cubic. (*See Table 1, below.*)

The composition of zirconia material defines its mechanical and physical properties, and hence, clinical indications. The biaxial flexural strength of zirconia materials ranges from 650 MPa ›

3Y-TZP Zirconia 4.5–6.0 wt% Y_2O_3 ~100% Tetragonal phase 0% Cubic phase HIGHEST Mechanical Properties (~1,200 MPa) **LOWEST Translucency**	4Y-TZP Zirconia 6.0–8.0 wt% Y_2O_3 ~75% Tetragonal phase ~25% Cubic phase HIGH Mechanical Properties (~850 MPa) **HIGHER Translucency**	5Y-TZP Zirconia 9.05–10.0 wt% Y_2O_3 ~50% Tetragonal phase ~50% Cubic phase LOWEST Mechanical Properties (~650 MPa) **HIGHEST Translucency**
The **tetragonal phase** helps with fracture toughness and strength, while the **cubic phase** helps with translucency.		

Table 1

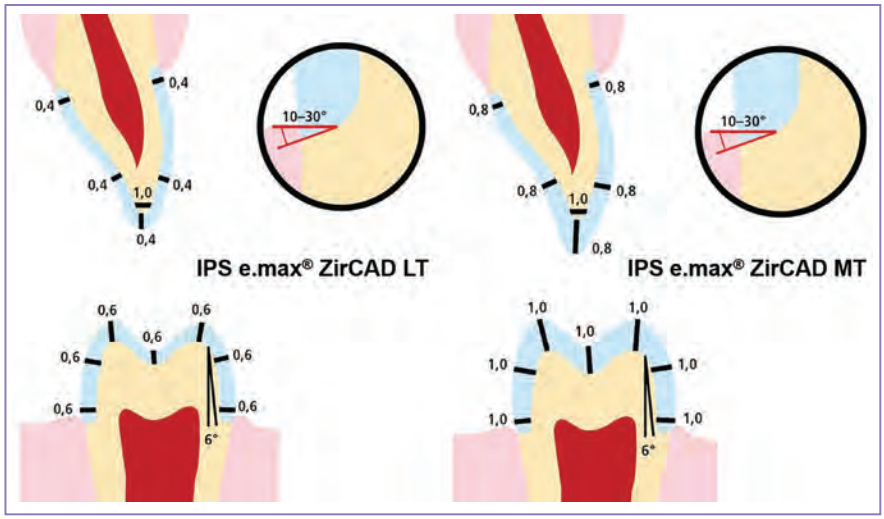


Figure 4

Figure 5

(5Y-TZP) to 1,200 MPa (3Y-TZP). The higher the value, the stronger the material. In addition, the presence of polymorphic phases in zirconia material provides a phenomenon called "phase transformation toughening." It causes the tetragonal crystals to change to monoclinic when a crack is introduced. The monoclinic phase has a greater volume. This stops the crack from traveling through the material, basically pinching the crack shut (see *Figure 3 on page 35*), and hence further increases resistance to fracture.

The newest generation of zirconia restorative material—IPS e.max® ZirCAD® Prime—is the next generation of all-ceramic restorations.

No phase transformation toughening can be observed in 5Y-TZP materials. Lastly, the translucency of 3Y-TZP is comparatively lower than 4Y-TZP and 5Y-TZP (most translucent), resulting in a clinical decision-making tree for clinical indications and cementation procedures.

The first zirconia restorative materials on the dental market were 3Y-TZP powders. Although these materials had high mechanical properties, they were dense and opaque, falling short of dentists' requirements for aesthetics, which were as important as strength considerations. Since then, varieties of zirconia materials (such as 4Y-TZP and 5Y-TZP) have become available to meet dentists' different functional and aesthetic demands.

TODAY'S DIFFERENT ZIRCONIA MATERIALS

As discussed earlier, the obvious disadvantage of new higher translucency and more aesthetic ZrO_2 materials is reduction in the mechanical properties (e.g., lower fracture toughness and/or lower flexural strength).[4,5]

Currently, newer generation cubic—5Y-TZP (e.g., CubeX2)—or hybrid—4Y-TZP (e.g., IPS e.max® ZirCAD® MT)— zirconia materials are limited to single-unit restorations to three-unit bridges. Such zirconias exhibit improved translucency for aesthetic full-contour (i.e., monolithic) restorations, but they demonstrate lower mechanical properties and a reduction in strength and fracture toughness compared to some other restorative materials.[6,7] This may limit their use to certain indications, wall thicknesses, and connector dimensions.

The 3Y-TZP zirconia materials (e.g., IPS e.max® ZirCAD® LT) are indicated for single-unit restorations to multi-unit bridge frameworks with a maximum of two pontics. Such materials

Figure 6

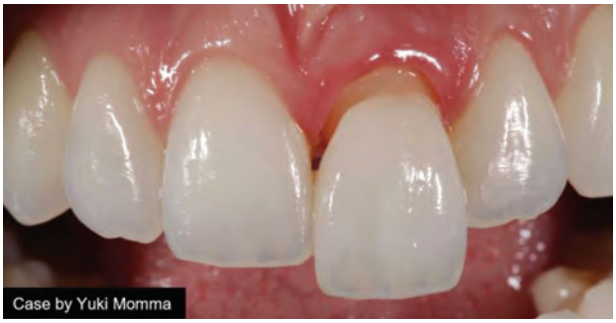


Figure 7

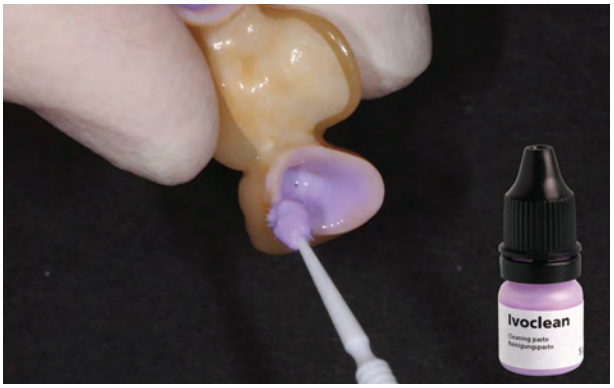


Figure 8

demonstrate high strength, excellent mechanical properties, and a low risk of temperature degradation; however, they exhibit a slightly lower level of translucency[8].

The existence of a variety of zirconia materials creates confusion and excessive inventory for dental laboratories. In addition, clinicians should follow tooth preparation guidelines specific to their selected zirconia restorative material. It is critical for both clinicians and dental laboratory technicians to consider the differences in properties among zirconia materials when selecting the ideal zirconia for a specific clinical indication.

Preparation guidelines for 3Y-TPZ zirconia materials range from 1.0 mm to 0.5 mm occlusal and axial reduction, whereas for 4Y-TZP and 5Y-TZP zirconia restorative materials, they range from 1.5 mm to 1.0 mm reduction. (*See Figure 4 on page 36.*) Additionally, the connector dimensions for bridges vary from 12.0 mm^2 for 5Y-TZP and 4Y-TZP materials to 7.0 mm to 9.0 mm^2 for 3Y-TPZ zirconia materials.

IPS E.MAX® ZIRCAD® PRIME

The newest generation of zirconia restorative material—IPS e.max® ZirCAD® Prime—is the next generation of all-ceramic restorations. This revolutionary material ensures exceptional quality of aesthetics and offers all indications ranging from single unit to long-span bridges with 14 units. Hence, it provides a complete solution for both dental technicians and clinicians. The unique "gradient technology" (GT) allows two zirconium oxide raw materials—3Y-TZP and 5Y-TZP—to be combined into one puck, allowing for the strength of 3Y-TZP and the aesthetics of 5Y-TZP. This technology involves three innovative processing steps:

1. *Optimized conditioning* of indigenous powders to adjust the sintering kinetics of 3Y-TZP and 5Y-TZP for uniform shrinkage.

2. Proprietary, state-of-the-art *filling technology*, which allows IPS e.max® ZirCAD® Prime to offer a true material progression from dentin to enamel. Unlike multi-layered materials on the market that can have visible layers of color and offer no change in material composition (as they are merely stacked layers of pigmentation), GT offers a seamless progression of shade and translucency to provide premium aesthetics combined with exceptional strength. (*See Figure 5 on page 36.*)

3. High-quality *pressing technology*, which is distinct from traditional ceramic material that utilizes one type of manufacturing process. IPS e.max® ZirCAD® Prime is created through multiple processing steps. One of these is cold isostatic pressing (CIP). In this step, the discs are uniformly compacted from all sides simultaneously. This improves the microstructure of the material and optimizes its translucent properties. Furthermore, it allows the material to be sintered at shorter intervals.

An intelligent disc concept allows a lab technician to position a restoration per clinical requirement and indication. The incisal and gradient zone of the IPS e.max® ZirCAD® Prime discs are always the same height, whereas dentin zone differs depending on disc thickness. (*See Figure 6 on page 36.*) In addition, it offers all processing techniques—including staining, infiltration, cut-back, and layering—to achieve desirable results. Therefore, IPS e.max® ZirCAD® Prime is one material for all solutions.

CEMENTATION PROTOCOL

IPS e.max® ZirCAD® Prime provides flexibility for clinicians to use all cementation options (e.g., conventional, self-adhesive, and adhesive cements). It is important to remember the actual cementation technique and diligently follow the protocol because it influences clinical success.

IPS e.max® ZirCAD® Prime ensures exceptional quality of aesthetics and offers all indications ranging form single unit to long-span bridges with 14 units.

Clinicians often use conventional cements (e.g., resin-modified glass ionomers, or glass ionomers) when placing zirconia restorations due to their ease of use. However, the limited bonding properties of conventional cements restrict their use in non-retentive tooth preparations.

The common myth is that zirconia material cannot be chemically bonded. However, highly-cited literature shows that zirconia restorations *can* be chemically bonded. The self-adhesive cements like SpeedCEM® Plus offer ease of use like conventional cements, and provide chemical bonding for long-term success.

To ensure successful cementation, use the protocol described on page 43. Avoiding any step in the cementation protocol will compromise the clinical outcome. *(continued on page 43)*

Who's the Doctor, Doctor?

Leading Your Practice Towards Comprehensive Care.

When I first heard Dr. Dick Barnes speak many years ago, I remember him saying the phrase, "Who's the doctor, doctor?" At that time, I did not truly understand the concepts of diagnosis and treatment planning, let alone the execution of complex procedures and the sequencing of the process. Patients would ask me questions about how I was going do the treatment, and they would especially inquire about the cost of treatment. Such questions were daunting and sometimes difficult to answer.

"Who's the doctor, doctor?" became something I would ask myself to make sure I was staying true to my training as an expert and on track with the patient's complete oral health in mind.

During that time in my career, I felt overwhelmed. I found myself relying on my training from school, which had not really prepared me to be more than a tooth mechanic. Usually, I ended up simplifying my planned treatment to make the patient happy.

Later on, I realized that such compromises did not truly serve the patient. Instead, I should have viewed my role as one who could help the patient in terms of his or her oral health and, more importantly, with their quality of life.

It took a few years to learn how *not* to listen to my personal "gremlins," or inner demons, which tried to tell me that making patients happy involved them not paying much for dental treatment.

Eventually, I experienced a paradigm shift about who should be directing treatment. Was it the patient? Was it my team telling me I shouldn't be doing this kind of work? Was it the insurance company telling me what kind of work to do? Was it my spouse or my accountant? "Who's the doctor, doctor?" became something I would ask myself to make sure I was staying true to my training as an expert and on track with the patient's complete oral health in mind.

A COMPREHENSIVE PHILOSOPHY

After graduating from dental school, most new dentists aren't

Being "the doctor" means being a leader and establishing your beliefs and mission. The leader has to have his or her finger on the pulse of the practice.

at a skill level to diagnose dental issues comprehensively. New dentists typically don't yet know enough beyond the minimum standard of care, so sometimes more complex issues are inadvertently missed. In retrospect, the phrase,"You don't know what you don't know," was appropriate for me.

Comprehensive treatment means not just looking at the "trees," but looking at the "forest through the trees." That happens by interviewing your patients better, understanding their stories better, and putting such information into a context that fits your patients' needs and desires, as well as their budgets.

Comprehensive means *everything*—looking at every angle. Some doctors are content being drill-and-fill dentists. But is that what's *best* for their patients? I would not want to go to that type of a dentist and then find out later in life that I had lost my molars without the dentist having told me how important it was for me to keep them in order to eat and chew in my later years.

Comprehensive dentistry means applying dentistry at a deeper level—not just being a dentist who does an MO composite. It's about understanding the functionality of the jaw and its muscles, and the teeth and how they are interrelated. It means learning to look at soft tissue differently and how to look at the integration of implants.

Comprehensive dentistry is also about looking at every age group with their particular needs, including young children (and examining the critical development of both their teeth and their airways), young adults, middle-aged patients, and more mature patients. I hear a lot of regrets from my senior patients who wish that they had taken better care of their oral health throughout their lifetime.

THE COMPREHENSIVE EXAM

Health History

A comprehensive exam starts out with universal categories, beginning with the patient's health history. How does the patient's health affect possible issues with their teeth? Maybe the patient takes medications such as blood thinners or bisphosphonates. A veritable host of issues can affect final treatment, and the way in which doctors help their patients depends on a proper understanding of how a patient's health issues are interconnected.

Dentists are not tooth mechanics. We're physicians of the oral cavity, and as such, we should do everything we can to help patients keep their teeth for a lifetime.

It's important to know and understand a patient's health history and to document it so that the outcome of the dentistry is successful. Dentists are not tooth mechanics. We're physicians of the oral cavity, and as such, we should do everything we can to help patients keep their teeth for a lifetime.

Dental Exam

The next step is a dental examination. The doctor checks the oral structures and the dental structures, looking at them both from a clinical perspective and from the perspective of ›

the patient. For a truly comprehensive look, dentists need adjuncts, or other sources of information. One of those adjuncts is, of course, dental X-rays. With digital dental X-rays, dentists can see hard tissue structures and determine if the tissue is healthy or not. X-rays allow dentists to find things that could be detrimental to the patient, such as cancers or abnormal tumors.

Additionally, dentists have the capability to see X-rays in a three-dimensional way with a cone beam computed tomography (CBCT) scan. This instrument allows dentists to look further and examine not only the jaw joints from a different perspective, but also the sinuses.

The cone beam also helps dentists see the back of the throat and identify issues that may be related to sleep apnea. With this information, dentists can make the proper referrals to an M.D. for a sleep analysis, or to an oral surgeon for a biopsy, or to an ear, nose, and throat (ENT) doctor. That's taking a comprehensive exam to a new level.

3D imaging can offer better oral care for patients, and it also increases the "wow" factor. Patients have repeatedly told me, "I've never had such a thorough exam in my whole life. I thought teeth were just teeth."

Supporting Structures

A comprehensive exam includes another category—the soft tissues of the mouth (the gingiva) and the supporting structures of the bone, and how they are working with the teeth. For this process, I recommend an intraoral evaluation of the patient, either with photography or a video capture of the dentition.

Occlusion/T-Scan®

The final category for a comprehensive exam is the jaw joint and the patient's occlusion. How has the occlusion held up over time? Has it deteriorated? Has it been stable? Does the patient have structural popping or clicking in the joint? After examining all of these areas, if doctors need more information, they can go further. This may involve biometric types of evaluations, like using a T-Scan® to check bite force and timing.

The comprehensive doctor is responsible to know and understand several modalities of treatment in dentistry, including the repositioning of teeth, oral surgery, endodontic treatments, soft tissue management, and sleep-disorder treatments.

All of these categories contribute to making a proper and thorough diagnosis. As dentists do this type of exam more and more, it becomes second nature. The dentist's job is to take all the pieces to the puzzle of the comprehensive analysis—exam, X-rays, intraoral scans, T-Scan®, etc.—and formulate a complete treatment plan for the patient.

The comprehensive doctor is responsible to know and understand several modalities of treatment in dentistry, including the repositioning of teeth, oral surgery, endodontic treatments, soft tissue management, and sleep-disorder treatments.

THE ROLE OF TEAM MEMBERS

Team members play an important role in assisting with a comprehensive diagnosis. Simply put, the dentist can't do it all. He or she needs a team to gather a patient's information, and the information must be clear—it can't be halfway done. For example, it can't be half of a scan. It has to be detailed and done the same way every time.

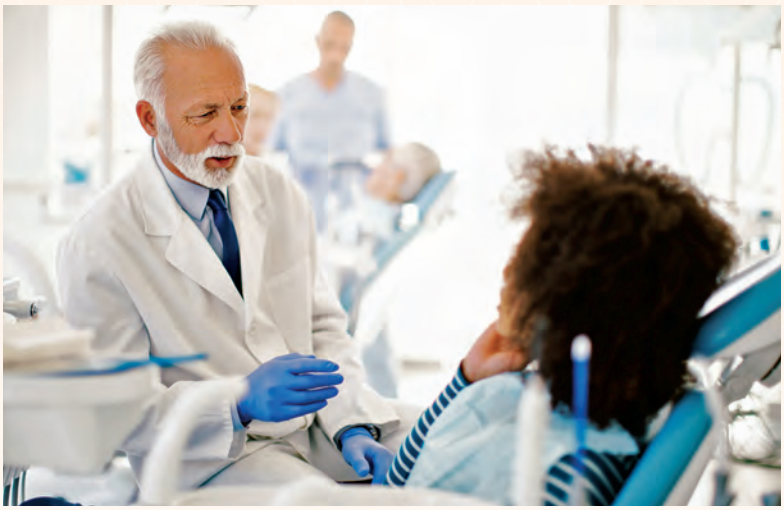
In my office, the way we greet new patients is always the same. The pattern is choreographed. The verbiage is choreographed. The examination is choreographed. We always ask patients their wants and desires.

For existing patients, we update their medical history and their dental issues with X-rays and thorough charting of their gingival tissues. We observe the teeth in the posterior for wear and deterioration, instead of waiting for things to get to the point of fracturing or cracking.

Then we bring the patient back for a diagnostic review. We explain in further detail what to expect, and also what we predict may happen in the future. And then we give them the choice to intervene now or later, making sure they understand that if it's later, the time and cost will likely be greater.

It's important for dental team members to understand why the comprehensive approach is being taken. Dental team members shouldn't feel like the only goal of the practice is to sell cosmetic procedures or a full mouth reconstruction. The goal of the entire team should be to help people maintain their teeth for a lifetime.

Team members have an integral part in describing to patients why the doctor is making treatment recommendations. They can explain everything to patients in layman's terms. They can also share stories of what the practice has done for other patients, and what a difference it makes when the doctor spends that kind



of time with patients and provides this type of care. If the front office is not skillfully trained on what it means to be a comprehensive dental practice, the process can break down.

Everyone needs to understand his or her unique role and how it relates to providing the finest care. For example, if a hygienist talks to the patient about potential issues and how treatment can help him or her to eat and chew, and then the dentist walks into the operatory and says almost verbatim what the hygienist just said, then they're congruent with their beliefs and values. It's a confirmation to the patient and communicates a message of confidence.

Everyone needs to understand his or her unique role and how it relates to providing the finest care.

Remember that team members should always know "who's the doctor." In a converse example, if a hygienist tells patients that they don't really need a certain procedure, it can sabotage what the doctor is trying to do. The situation must be addressed immediately or it can cause additional problems down the road. That's being the doctor, doctor. A team member's personal beliefs shouldn't come into play.

Being the doctor means being a leader and establishing your beliefs and mission. The leader has to have his or her finger on the pulse of the practice. That includes looking at the business numbers for the health of the practice.

COMMUNICATION WITH PATIENTS

The doctor can undermine the importance of the treatment plan by immediately giving in when a patient says they don't want it. Early in my career, I went through this as well. But I learned that when I'm honest with the patient, and I approach them as Dr. Dick Barnes suggests ("eye-to-eye and knee-to-knee"), then I can explain things to them in terminology that they understand so that they can choose what's best.

Often patients have concerns that doctors can address. For example, a patient might say that he or she doesn't want an implant. If you dig a little deeper, they may tell you that they don't want an implant because they had a friend who had one, and it was a terrible experience. The implant became infected and fell out.

Knowing the root of the concern, you can assure the patient that it's not normal for a thing like that to happen. Then you can explain about the procedures that you follow in terms of sterilization, and the protocols that are in place to prevent those kinds of complications from occurring. Simple reassurance may be all a patient needs.

WHAT IS COMPREHENSIVE?

Comprehensive treatment is not always the most expensive, highest-end dentistry. If I had a patient who was 78 years old and immune compromised, and he or she came in wanting an implant, providing one might not necessarily be advisable. In his or her situation, an implant could create more issues, whereas a bridge could work extremely well.

In the process of meeting with that patient and gathering the information, I might say, "It looks like there are a lot of things here that I want to spend time going over with you." Then I would end it by saying, "I would hate to miss anything. And it would be a disservice for me to even try to guesstimate some things, because there are some things I want to take a hard look at. I'm going to have you come back after I study all this."

When the patient returns, I could explain the treatment to him or her in a way that they would understand. This gives me time to come up with a treatment strategy for helping patients so they can enjoy their teeth for the rest of their lives.

That's what comprehensive dentistry is really all about—using the best instruments at our disposal, understanding the best modalities of treatment available, being a leader of the team, and learning to communicate the best treatment effectively to patients. Together, it adds up to quality care for all patients, and it helps them keep their oral health in great condition throughout their lifetime. ■

Dr. Jim Downs received a D.M.D. degree at Tufts University School of Dental Medicine in Boston, MA. He is an expert in comprehensive restorative treatment and has completed numerous full arch and full mouth reconstruction cases.

He maintains an aesthetic, family-oriented practice in Denver, CO. Dr. Downs is an instructor for several continuing education courses with the Dr. Dick Barnes Group seminars, including Implant EZ, Full Arch Reconstruction, and more.

Do What Scares You *(continued from page 3)*

I could have stopped taking flying lessons after my first spin. Instead, I approached my instructor and asked him to explain how a plane goes into a spin and how to get out of it. The next time my instructor asked about doing a spin I said, "I want to do it, but I am going to initiate it."

Replace your default dialogue of fear and doubt with one of hope and faith, along with purposeful action.

While in the air, I pulled the stick back slowly, and as the plane pitched up into a stall, I pushed full right on the rudder and looked out the window as the plane started to fall out of the sky. After two hair-raising spins, I gradually gained control of the plane and climbed back to altitude. That experience was a game-changer. It taught me that in order to overcome an obstacle, I had to initiate the very situation I feared.

SEIZE THE DAY

A perfect example of how this applies to dentistry is the tendency dentists have to wait until the perfect case walks in the door before attempting a full arch case. Rather than waiting for the ideal opportunity, we should initiate it ourselves. How can you do this? Diagnose every patient with comprehensive dentistry (see *"Who's the Doctor, Doctor?" by Dr. Jim Downs on page 38*). Always present the best option for your patients, and make that first full arch case happen on your terms.

It's important to be proactive rather than reactive. If you encounter an uncomfortable situation within your team, don't wait for it to become toxic. Team members often respond to change by saying, "Give the dentist a few weeks and he or she will get over it." Sometimes they even do things to "prove" that the change won't work. I call that internal sabotage.

Initiate an honest discussion and don't wait to handle the problem. If you need advice, find a mentor to help. Ask someone who has already encountered such a predicament, and put your newfound knowledge into practice.

The start of a new year (and especially a new decade) is full of potential. If you find that your past efforts have been limited by obstacles, do as Marcus Aurelius advises and confront those obstacles directly, and on your own terms.

Replace your default dialogue of fear and doubt with one of hope and faith, along with purposeful action. If you do, you will find that there is nothing you can't overcome. It will be your best year yet. ■

1. Air-abrasion of the intaglio surface of restorations using Al_2O_3 particles (50 µm) at 1 bar pressure—which is usually performed by the dental laboratory—roughens the zirconia surface to increase micro-retention for improved bonding.

2. After trying-in the restoration in the patient's mouth, it should be cleaned. Zirconia surfaces show a high affinity for phosphate groups, and saliva and other body fluids contain various forms of phosphate (e.g., phospholipids) that may react irreversibly with the restorative surface and compromise bonding. This also contraindicates the use of phosphoric acid on zirconia restorations. To clean zirconia restorative surfaces after try-in and create an optimum surface for adhesive bonding compared to other cleaning protocols, a unique product (Ivoclean®, Ivoclar Vivadent, Inc.) is indicated.[9,10] (*See Figures 7 and 8 on page 37.*)

3. The use of primers containing phosphate end groups or cements containing MDP (10-methacryloyloxydecyl dihydrogen phosphate) is recommended for achieving the best bonds to the zirconia structure. The self-adhesive resin cements (e.g., SpeedCEM® Plus) contain MDP, so the application of restorative primer as a separate step can be eliminated.

Finally, cement is extruded in the restoration, seated per path of insertion, and followed by polymerization of the cement according to the manufacturer's recommendation. The translucency of the zirconia restorations depends on the material's composition and thickness, and hence light attenuation through the restoration varies. Therefore, it is critical to consider these factors while selecting the cement options.

For opaque restorations, self-cure and dual cure cements are recommended, and it is extremely important to let the cement set on a self-cure mode before checking occlusion or making occlusal adjustments.

RESULTS

Interest has grown in using zirconia for fabricating monolithic, full-contour restorations, particularly as different generations demonstrate new levels of optical and mechanical properties to meet dentists' demands. The composition, mechanical properties, optical characteristics, and processing of these new zirconias are different from previous generations of the high-strength material, and are differentiated by a number of factors.

Today's new zirconia materials enable dentists and laboratories to choose among options that can be milled to full contour, demonstrate acceptable aesthetics and translucency, and are suitable for clinical situations in which high mechanical stability, thin restoration walls, and natural aesthetics are essential. ■

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He was awarded the Graduate Fellowship Award in 2010. In 2012, Dr. Singhal started his career at Ivoclar Vivadent, Inc., in a position of Clinical Specialist, where he directed academic research studies, new product developments/evaluations of dental materials, troubleshooting clinical questions, and education. He is an active member of various dental organizations and presents his research at many scientific meetings and lectures—significantly, at national and international venues. Currently, Dr. Singhal serves in a position of Director of Professional Services at Ivoclar Vivadent, Inc., in Amherst, NY, and manages education courses in North America.

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