

# Aesthetic Dentistry

TECHNOLOGY AND TRENDS IN PRACTICE DEVELOPMENT

15 ISSUE 1 • SPRING 2016

## Talking Points

*Learn how the right words  
get the results you want.*

## Family Practice

*Utilize the power of a  
supportive spouse.*

## White Wax-Up 101

*Simplify large-case  
dentistry for optimal results.*

**A professional model overcomes bulimia and gets a new smile. p. 6**

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# Make It Happen!



## Let Life Evolve and Success Will Follow.

A new year has just begun and you have a new opportunity to make this your most productive year yet. With that in mind, I've decided to share some of the most important insights that have helped me improve my life both personally and professionally. I am confident that these ideas have the potential to help you become a better and more productive dentist.

Before anything that I write can be of benefit, you need to remember an important fact—you aren't "born" anything—life is an evolving process. We all have to learn to be successful. It is not something that just happens. The reason that success seems so difficult is because many people don't look at their world and see it for its potential.

Most people, including dentists, tend to react to challenges as if they are problems to be handled, rather than the opportunities they truly are. To avoid this pitfall, it's important to understand yourself and what makes you tick. Then you can begin to understand others (including your patients).

To start this process, you should be conscious of conformity and its role in your life. Most people conform to what their neighbors are doing; you want to be just like the dentist down the street. But that dentist wants to be just like you! People lose their identities by looking, dressing, and thinking alike. By embracing fads, you lose your identity, and when that happens, you are no different from any other dentist. Strive to develop your own identity so people can see it and feel it.

After 40 years in this business, I've learned that everyone needs two key things in order to be successful:

**1. An Individual Identity.** People want to be recognized as different from everyone else. As dentists, we want to be known for providing a level of care that is above the rest. Patients want dentists who are like this, too. Patients will travel a long way to visit a dentist who delivers a higher level of service—one who calls them by name, listens to them, and helps them achieve optimal dental health, regardless of their perceived ability to pay.

**2. Change or Stimulation.** No one wants to get trapped doing the same things everyday. We become depressed when we don't have something to stimulate us. Dentists get depressed when each day is the ordinary, insurance-based, drill-and-fill dentistry that every other dentist is doing. We want to provide treatments that enhance the quality of our patients' lives. Implants and full arch reconstruction cases are a great way to bring the excitement back to dentistry, in addition to bringing variety to the daily schedule. If you aren't currently doing these

kinds of cases, now is the time to start. Get out of your own way and let your life evolve!

### MAKE A PLAN

The Scottish philosopher Thomas Carlyle said, "A person without a goal is like a ship without a rudder"—he or she drifts without any specific port in mind or any course plotted. But what about the ship that has a hold full of valuable cargo, a course charted with a captain at the helm, and an active rudder? A valuable reward awaits at the designated journey's end.

Think about what you want and where you want to be in five years within the context of your individual identity and the change you want to realize. Craft an image of the future and start working towards that vision every day. Make certain that your goals are realistic, otherwise they can become frustrations. My only goal in life was to be a dentist—and to be the best dentist that I could be. Everything started evolving from that central focus and the result is greater than I could have imagined or planned for.

**My only goal in life was to be a dentist—and to be the best dentist that I could be.**

The way we see ourselves determines our actions and our inactions. Too often, we find ourselves seemingly stuck and unable to progress towards our full potential. This is due mostly to our memories, which can be the most devastating part of our minds. Memories remind us how inferior we are, how shy we are, how incapable we are, etc. Memories are the voices in our heads that tell us we can't do something or that reinforce a negative experience.

The solution can be found in another part of the mind—the imagination. Imagination has the power to unlock your potential. How you envision yourself is the way your future will be. If you can see yourself being extroverted, outgoing, and patient, that is the way you will be. If you imagine yourself doing large-case dentistry, you will find yourself seeking out the opportunities that will make it a reality.

Now is the time to take action towards a higher level of success. When fear and doubt threaten to hold you back, let faith and hope fuel your imagination. I know it works because I have experienced it and I know that it will work for you! ■

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# A Modern-

## It's Never Too Late for a New Smile.

**A**ll my life, I've been told that I look the part of a princess. True to form, I've been a model and actress pretty much my entire life. My background is in musical theater and I love to perform. I lived in New York City, NY, and performed on stage there for several years. My love and passion is singing and performing in the theater. In addition, I run a princess party business. On stage and in photos, my life looked picture perfect. But behind the fairytale façade, I had a secret that was ruining my health and running my life.

Almost everybody has issues of some sort, and my story is no different. For about fifteen to eighteen years, I had bulimia—an eating disorder characterized by binge-eating and self-induced vomiting (purging). It started when I was just a teenager. Growing up in upstate New York, I often felt like an outsider and I just wanted to fit in. I thought maybe being thin would be the way to do it. I secretly started bingeing and purging as a way to accomplish that. After a while, the bulimia was how I dealt with anxiety. When I would get anxious or nervous, I binged and purged to try to feel in control of my life.

The irony is that although my bulimia began because I was worried about my looks and staying thin, it ultimately had a very negative effect on my looks and my health—particularly my teeth. It caused a lot of damage to my mouth over the years. Stomach acid destroyed the enamel of my teeth and caused my teeth to erode and even fall out. I lost one of my front teeth and a friend helped me get an implant to replace it. My mouth was a mess and I was constantly in pain.

**I was running a princess party business.  
But I did not feel like a princess. I was just playing a role.  
It didn't feel believable to me—largely because of my teeth.**

In addition to bulimia, I also had a drug addiction for a while. You would never know it from looking at my pictures, but that was a part of my life. I couldn't hide the effect the drugs had on

my mouth—that kind of damage is something that a lot of people don't think about. I tried to avoid smiling in photos or in my day-to-day interactions. The drug use made everything in my mouth start to hurt and break and it ruined my gums. My drug addiction lasted long enough to do permanent damage, even after I kicked the habit.

### COST OF NEGLECT

It may seem contradictory, but although I was a working model and actress for most of my life, dental health was not a priority—mostly because I was hiding my bulimia, but also because of the expense. I was unable to afford dental care, so I neglected going to the dentist for a long time. I also strayed from cleanings and from brushing and flossing on my own, so my gums became extremely sensitive and bled for years.

I was in a lot of pain from my damaged teeth and gums. I would feel fine for a couple of days, then seemingly out of nowhere, I'd have shooting pains from my gums and shooting pains from inside my back teeth. Then my teeth started to break. My front implant fell out about four years ago, and I had to use denture adhesive cream daily to hold it in place because there wasn't a post anymore.

The complications from my dental health started to impact every aspect of my life. Working in an industry based on looks, I felt very self-conscious. In the modeling industry, it's not about what's on the inside, but it's what's on the outside that counts! And my outside (specifically, my teeth) was falling apart!

My smile held me back. I would do concept model shoots and pictures for covers of romance novels, but I could never show my teeth. It became difficult for me to find work. Models can't get commercial work if they don't have a smile. Eventually, I stopped going to auditions because of it.

In addition to the practical effects, I felt emotionally inhibited. If I was excited or happy, I held back my feelings. I thought, 'What if I open my mouth to talk and a tooth falls out?' That actually happened several times and it was very embarrassing.

During this same time period, I was running my princess party business. But I did not feel like a princess. I was just playing a role. It didn't feel believable to me—largely because of my teeth.



# Day Princess

My teeth affected my personal life, too. I was anxious on dates because I worried about my loose front tooth. I was never completely confident with that tooth. I dealt with this issue for years. Overall, I felt unable to move forward in many aspects of my life.

My health was poor in general. My decaying teeth caused problems to my immune system and energy level. What many people don't realize is that when you have issues with your mouth, it affects the health of your entire body. The bacteria can go from the saliva and the mouth into the gums and the broken teeth. Then it can go into the bloodstream, and from there it can hit the heart. When I finally visited a dentist, he said that I was getting to the point where I would likely have some type of heart problem because of the bacteria in my teeth. The neglect of my teeth was so serious, it was actually life threatening.

## TIME FOR A CHANGE

A combination of the pain and missing teeth finally drove me to look for a change. By May of 2015, I was in such dire pain that I said a prayer to my Higher Power. I didn't know what else to do, so I went online and searched for free dental contests. Through the search, I found Dr. Joseph Willardsen with True Dentistry in Las Vegas, NV. True Dentistry was looking for a story to feature on an upcoming episode of the television show, *The Doctors*. Dr. Willardsen was offering a complete smile makeover—worth \$30,000. I couldn't believe it! It was just what I was looking for. I quickly sent Dr. Willardsen my story. Within one hour, he called me back. That's how it all started.

Dr. Willardsen and his team commenced work on my smile during the summer of 2015. The goal was to be ready ▶



# Aesthetic Dentistry

EDITORIAL DIRECTOR: Dr. Dick Barnes, D.D.S.

EXECUTIVE ADVISOR: John Bauer, D.D.S.

MANAGING EDITOR: Michelle Billeter-Maxfield

ACQUISITIONS EDITOR: Matthew Cook

ASSISTANT ACQUISITIONS EDITORS: Debi Evans  
& Peggy Nelson

COPYWRITERS/EDITORS: Diana M. Thompson,  
Michelle Billeter-Maxfield, Gavin Glover

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Warning: Reading about techniques, procedures, and materials in this publication does not necessarily qualify you to integrate the new techniques and/or procedures into your practice. Exercise caution as you are solely responsible for specific treatments and options for your patients.

for a taping of *The Doctors* in September. When I met the True Dentistry team, everyone was so warm and welcoming—they became like family to me!

At my first appointment, I was shaking and extremely nervous. But the True Dentistry dental team showed me what was about to happen and how great things could be for my smile. It seemed so over-the-top! It really didn't seem believable that my smile could change so completely in just a few short months! I was nervous, but I was getting the biggest gift of my life—a beautiful new smile.

It was not an easy process. As I mentioned, my mouth was in terrible condition. When they started working, the team had to break up my initial cleaning appointment into four different appointments because I was in so much pain and there was so much bleeding. Also, I had to have several teeth taken out, my gums needed to be grafted, and my bite needed to be completely re-aligned. The True Dentistry team did about nine months of work in only four weeks, with an additional month for prep (*for more details on Samantha's case, see the story, "Made for TV" on p. 30*).

Cleaning up after years of neglect was an extremely painful experience. It was difficult, but I told myself, "This too shall pass." In a way, it was as if the emotional pain of my past came out through physical pain in my mouth, and now it's left my body for good.

## THE PRINCESS WITHIN

In the short time since receiving my new smile, I have felt like a different person. Once the new teeth were placed, a whole new confidence came into my life. Immediately afterwards, I ran around everywhere

## SEND US YOUR CASE!

We are looking for articles to publish in upcoming editions of *Aesthetic Dentistry* magazine. Please send us a case study that features Arrowhead Dental Laboratory's Elite dental restorations.

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(Photo courtesy  
Thomas Gensinger—  
TG Photography LLC)

(Close-up): Before  
the smile makeover,  
Samantha rarely  
smiled due to her  
damaged teeth.

smiling really big and telling everyone, "Look at my teeth! Look at my teeth!"

I never really knew how to smile before, and I'm still getting used to smiling fully and properly. But many good things have started to come of it. I've started getting offers for modeling work and I'm feeling better about myself.

Now that I have a new smile, I have my confidence again. I truly feel like the princess that I used to pretend to be. And I plan to put that confidence to good use with the young girls I work with. My business, Princess Lorelai Productions, teaches little girls that we're all princesses. My approach is, "It's not the gown or the crown, but a real princess is within."

Today, people see a new glow about me. I still have my ups and downs, because I'm human. But I'm not afraid to look at myself in the mirror and see the woman I am today.

## A WHOLE NEW WORLD

I am very grateful to the entire True Dentistry team and the staff at *The Doctors*. Everyone was absolutely incredible and I can't thank them enough. This year is a new beginning in many ways. My

health has improved and I plan to take care of myself and get my body back in top shape. I've even started dating again!

Today, I have no pain. No pain at all. And I have no bleeding, either. Of course, I still have a little sensitivity, but that has lessened with time. My last cleaning was easy and pain free!

## THE ROYAL TREATMENT

For anyone with dental problems big or small, I have two messages: number one—it's never too late to do something about it; and number two—take care of the problem now! A lot of people are afraid of dental work, whether it's because of money or other factors. But the longer you wait, the more damage you will have.

**I'm not afraid to look at myself in the mirror and see the woman I am today.**

I am living proof that it is never too late to fix your smile. There are ways to fit treatment into your budget. The important thing is to get your teeth taken care of! If you have waited a little too long to go to the dentist and are afraid, be assured that it is worth it. My new smile will last me the rest of my life. Whether your problems are minor or major, there's no time like the present to get started on a smile worthy of any princess (or prince)! ■

*Samantha Diane attended Marshall University in West Virginia, and the School for Film and Television in New York City, NY. During her time in New York City, she pursued her love of singing and acting and began modeling. More recently, Samantha has created a company, Princess Lorelai Productions, where she visits sick children and surprises birthday girls with guest appearances. Samantha has graced the Broadway stage numerous times, touching people with her voice. Her gift for social networking is huge and she has built a following of 63,000 fans on Facebook.*



*nonfiction literature, particularly for the healthcare industry. Diana can be contacted at dianamaxfield@gmail.com.*

*Diana M. Thompson graduated magna cum laude with a bachelor's degree in English from Utah State University in Logan, UT. For the past 10 years, she has worked as a copywriter and editor for the natural products industry. She has written for several newspapers and edited a variety of full-length books and booklets. She specializes in*

## COVER STORY CREATIVE TEAM

**AESTHETIC DENTISTRY:** *Dr. Joseph Willardsen*, Las Vegas, NV

**PORCELAIN RESTORATIONS:** *Roy L. Petersen*, Arrowhead

Dental Laboratory, Sandy, UT

**PHOTOGRAPHY:** *Justin Grant*, JustinGrantPhotography.com

**HAIR AND MAKE-UP:** *Janelle Corey*, Salt Lake City, UT

## Q&amp;A on

## Material Selection



## Choosing Case Materials for Optimal Outcomes.

For more than 20 years, Kent Garrick has been advising dentists on comprehensive case design. As Arrowhead's Director of Technical Services, he recently talked with Aesthetic Dentistry about how dentists choose the materials for their cases, what the lab recommends, and tips for dentists that will ensure the materials they are using are the best choices for their patients. We've included a Material Selection Guide on pages 13 to 14, to summarize and assist you in choosing the best materials.



**AD: HOW SHOULD DENTISTS CHOOSE MATERIALS FOR THEIR CASES?**

**KG:** Dentists should do an overall examination to assess a patient's occlusal situation or the bite forces before selecting materials. Dentists should consider whether they need to increase the patient's vertical

or other issues. Do they need more of a balanced group function posterior occlusion? We typically use glass throughout the arch but we craft the door stops from either porcelain-fused-to-metal (PFM) with metal occlusal or a fofaled to help take some impression forces away from the all-glass restoration. Without an overall exam first, the dentist may ask for an Empress® case when they need to opt for a stronger material, such as zirconium. If patients put too much strain on an all-glass restoration, it's doomed.

**AD: HOW DO PREPPING STYLES FACTOR INTO MATERIAL SELECTION?**

**KG:** Certain materials require different prepping approaches. But there's no such thing as, "one prep fits all." It's easy to get into a rhythm of how to prep and sometimes doctors think it's an all-inclusive prep. Often, doctors want Empress®, but they have left a lot of sharp edges and haven't really softened the corners. Many dentists don't realize that when you thin the material down to a minimal thickness at the margins, chipping and fractures happen.



**AD: HOW DOES PREPPING FOR AN E.MAX™ PRESS COMPARE TO ZIRCONIUM?**

**KG:** With e.max™ Press, you want a one-millimeter depth margin with a nice chamfer or shoulder margin. Chamfer works better than shoulder because you don't have a 90-degree angle to get glass to adapt to. A softened edge is better than sharpened in any aspect of the preparation. We often recommend softening out corners and incisal ledges—taking a little time to round things off—because it adds to the strength and the longevity of the material.

Zirconium is a bit more forgiving, especially in terms of occlusal thickness. Because of the added strength of the zirconium, doctors have the option of an all-zirconium occlusion. It isn't exactly like a metal occlusion, but it's pretty close. You don't have to stack porcelain on it. With e.max™ Press, you may have exposed lithium but you still need a minimum of thickness or the case can be compromised.

**AG: HOW DO YOU COMPARE THAT TO A MORE TRADITIONAL METAL PREP?**

**KG:** Metal prep is the most forgiving because you can have sharp edges. If decay is removed from the occlusal table, doctors can fill in deeper pits and valleys with metal, because it is forgiving. At the end of the day, it's not going to jeopardize the strength of that restoration.

**AD: SHOULD DENTISTS ALWAYS STRIVE FOR THE BEST AESTHETIC IN EVERY CASE?**

**KG:** Often, doctors want to go with the best aesthetics, but based on the situation, sometimes there is a compromise because the patient may need materials that offer more strength. It might mean choosing a zirconium or a PFM to help stabilize the occlusion and ensure the success of the case.

**AD: WHAT KIND OF ADVICE WOULD YOU GIVE A LESS-EXPERIENCED DENTIST AS FAR AS THE SELECTION OF MATERIALS FOR A FULL ARCH CASE?**

**KG:** The best thing to do is to work with the laboratory from the start. Dentists should start with a diagnostic wax-up and good photographs up front. Communicating with the lab, knowing the goals for the case, and getting advice from people who work with the material day in and day out are all crucial. Every case is different and has its own unique challenges.

**AD: WHAT IS THE MOST EFFECTIVE AND AESTHETICALLY PLEASING APPROACH TO COMBAT A DARK STUMP?**

**KG:** You have options, but there are compromises as well. With e.max™ Press, a high opacity (HO) is available, but it may not cover as well. Zirconium has the ability to block out the dark color, but you

compromise the depth of the porcelain or the aesthetics to a certain degree.

**AD: HOW DOES A WHITE WAX-UP HELP YOU ADVISE DENTISTS ON MATERIAL SELECTION?**

**KG:** It immediately gives dentists a map of where they need to go with the case, which translates into what we can and can't do with material. If a dentist wants to do all glass, for example, we can advise on tissue contouring or special prep requirements to get the tooth structure into the proper position for the best outcome. If a doctor wants to do all glass, we can usually tell from the wax-up if it will work or if they need a different material.

**AD: WHAT MATERIALS WOULD YOU RECOMMEND WHEN STRENGTH IS THE MOST IMPORTANT FACTOR DUE TO FORCES SUCH AS BRUXING?**

**KG:** A lot of problems with bruxing issues can be resolved with full zirconium. Aesthetically, that's probably the most compromised material, but strength is more important in such cases. Out of the three options (Empress®, Zir-Max®, and PFM), full zirconium offers the least aesthetic outcome.

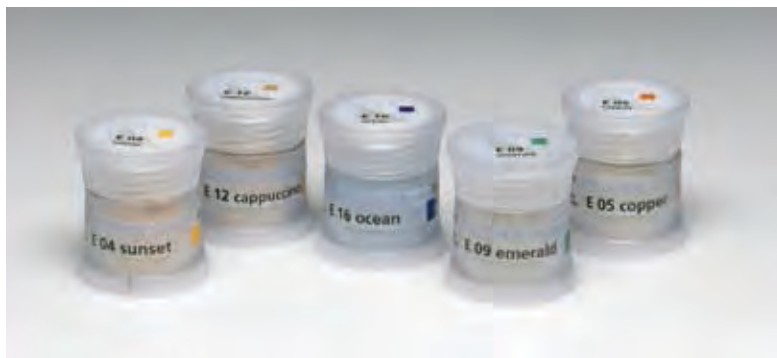
**AD: IS THERE A SELECTION THAT COMBINES THE STRENGTH OF THE METAL WITH THE BEAUTY OF THE AESTHETICS?**

**KG:** If you have a patient with malocclusion, it's important to have support in the posterior, but you still have some freedom in the anterior to change that material or transition the material from a PFM or zirconium in the posterior into e.max™ Press or an Empress®. I try to do that when it's possible.

**AD: WHAT ADVICE DO YOU GIVE TO DENTISTS WHO WANT TO AVOID MAKING COMMON MISTAKES IN HIGH-FORCE CASES?**

**KG:** Don't let patients dictate the direction of the case. Remember what Dr. Dick Barnes said—"Who's the doctor, doctor?" Don't let a patient pressure you to compromise materials in order to save a few dollars up front. Patients lack the knowledge and understanding of what may result down the road. I try to offer two options on every case, because I want doctors to feel comfortable, but I also want to make the doctor aware that there are compromises. ►





**AD: WHAT KIND OF COMPROMISES DO YOU SEE THAT CAUSE PROBLEMS?**

**KG:** The biggest mistakes I commonly see are under-diagnosing in general, and requesting a material that's not going to give the best aesthetic or functional outcome. I see cases that should be a full mouth case with vertical increase, but the doctor requests to open the bite minimally or not at all. The doctor needs to look at the current wear patterns of the patient. If the anterior teeth are being worn down, but the doctor only requests work on teeth 6 through 11, there will likely be problems down the road.

**AD: ARE THERE ANY TECHNIQUES THAT DOCTORS SHOULD AVOID?**

**KG:** In an over-closed case, when a doctor only wants to do teeth 6 through 11, the doctor may try to do a metal occlusal to take care of the situation and hopefully avoid breaking glass. A lot of people don't realize that metal on enamel will wear down the opposing teeth at an accelerated rate, so they will encounter problems down the road.

**AD: WHAT ARE SOME REASONS THAT MATERIALS FACTOR INTO CASE FAILURES?**

**KG:** Sometimes a doctor neglects to look at a patient comprehensively. All doctors should consider the longevity of the case, the happiness of the patient, and the health of the patient. Out of those three categories, one out of the three is typically considered. Treatment may need to be addressed further than anticipated by either the patient or the doctor.

**AD: WHAT MATERIAL-TYPE FAILURES ARE COMMON?**

**KG:** A lot of times, doctors might not have the right tools or they haven't done all the necessary research. Perhaps the patient needed more work initially—whether it was splint therapy, or vertical increase, or the proper adjustments to the opposing teeth. Maybe the doctor didn't use a good impression material or a good tray, or was dealing with distortion. A lot of times glass is accompanied by micro-fractures. They may not show up for awhile, or the material may fail right away. When you have interferences, glass is typically the loser. Anytime you stack glass or have free-floating glass, you are set up for failure. It's like a crack in a windshield. Eventually, something is going to influence the crack and break the whole crown.

**AD: WHAT IS SOMETHING THAT DENTISTS DO THAT MAY COMPROMISE THE EFFICACY OR STRENGTH OF THE MATERIAL FROM THE OUTSET?**

**KG:** From the start, not prepping correctly. The doctor may miss the proper reduction that the lab needs for the thickness. Sometimes, doctors say, "I was able to put a temporary on that [tooth]," but a temporary doesn't require the same reduction as glass.

Creating micro-fractures is another common problem. If a doctor makes adjustments with burs that create heat, it creates micro-fractures. If the sequence of bonding the case is off, creating a situation with thin spots, that's going to compromise the case. If the patient wants to make changes after a case is in the mouth and bonded, it can cause micro-fractures. If a doctor uses the wrong tools to make those adjustments, he or she will create a problem.

**AD: ARE THERE PREFERRED WAYS OF CEMENTING OR BONDING CERTAIN MATERIALS?**

**KG:** In the bonding process, if you tack a crown in as you're placing it and then do a final cure, you allow yourself some damage control if needed. When you do a full cure with a crown, you're locked in (on larger cases). With onesies and twosies, it's pretty straightforward—make sure the occlusion and contacts are where they need to be and then just go ahead and cure it into place.

**AD: IS THERE A STRATEGY TO REMEMBER THE ELEMENTS OF MATERIAL SELECTION?**

**KG:** We teach doctors to be smart about the selection in the first place. You need to know that the megapascals of each material is different and determine how you're going to take some of the force off. We teach that putting full gold on the second as a door stop can and will minimize the compression strength or the compression forces.

I teach my tech support team that they don't need to reinvent the wheel with every case. There are times when you need to mix and match some materials, but if you do the process the way that we recommend, you don't need to rethink it every time. If dentists make room for the material, they want the aesthetics, and they've got the occlusal scheme worked out, then it's not difficult to stick with what works. ■



*Kent Garrick is Director of Technical Services at Arrowhead Dental Lab, where he has worked for 24 years. He specializes in assisting dentists in comprehensive case design.*



# MATERIAL SELECTION GUIDE (METAL)

MATERIAL	INDICATIONS	FLEXURAL STRENGTH	ADHESION	PREPARATION	REDUCTION GUIDE	BUR REDUCTION GUIDE (BRASSLER)	PORCELAIN SYSTEMS
FULL CAST GOLD (WHITE)	anterior & posterior; singles & bridges	495 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate; Multilink <sup>®</sup> ; RelyX <sup>™</sup> Luting; Panavia <sup>™</sup> 21; GC Fuji PLUS <sup>®</sup> resin-reinforced, glass ionomer luting cement	feather/bevel	1.0-1.5 mm reduction	margins; upper incisor, cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	
FULL CAST GOLD (YELLOW)	anterior & posterior; singles & bridges	425 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate; Multilink <sup>®</sup> ; RelyX <sup>™</sup> Luting; Panavia <sup>™</sup> 21; GC Fuji PLUS <sup>®</sup> resin-reinforced, glass ionomer luting cement	feather/bevel	1.0-1.5 mm reduction	margins; upper incisor; cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	
PFM NOBLE	anterior & posterior; singles & bridges	80 ± 20 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate; Multilink <sup>®</sup> ; RelyX <sup>™</sup> Luting; Panavia <sup>™</sup> 21; GC Fuji PLUS <sup>®</sup> resin-reinforced, glass ionomer luting cement	chamfer/ shoulder for porcelain margins	1.5-2.0 mm reduction; axial walls; occlusal	margins; upper incisor; cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	Ivoclar InLine <sup>®</sup>
High Nobel White	anterior & posterior; singles & bridges	80 ± 20 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate; Multilink <sup>®</sup> ; RelyX <sup>™</sup> Luting; Panavia <sup>™</sup> 21; GC Fuji PLUS <sup>®</sup> resin-reinforced, glass ionomer luting cement	chamfer/ shoulder for porcelain margins	1.5-2.0 mm reduction; axial walls; occlusal	margins; upper incisor; cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	Ivoclar InLine <sup>®</sup>
High Nobel Yellow	anterior & posterior; singles & bridges; 3-unit bridges anywhere	80 ± 20 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate; Multilink <sup>®</sup> ; RelyX <sup>™</sup> Luting; Panavia <sup>™</sup> 21; GC Fuji PLUS <sup>®</sup> resin-reinforced, glass ionomer luting cement	chamfer/ shoulder for porcelain margins	1.5-2.0 mm reduction; axial walls; occlusal	margins; upper incisor, cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	Ivoclar InLine <sup>®</sup>
Captak <sup>®</sup>	anterior (2nd bi forward); 3-unit bridges-anywhere	80 ± 20 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate; Multilink <sup>®</sup> ; RelyX <sup>™</sup> Luting; Panavia <sup>™</sup> 21; GC Fuji PLUS <sup>®</sup> resin-reinforced, glass ionomer luting cement	chamfer/ shoulder for porcelain margins	1.5-2.0 mm reduction; axial walls; occlusal	margins; upper incisor, cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	Ivoclar InLine <sup>®</sup>

# MATERIAL SELECTION GUIDE (NON-METAL)

MATERIAL	INDICATIONS	FLEXURAL STRENGTH	ADHESION	PREPARATION	REDUCTION GUIDE	BUR REDUCTION GUIDE (BRASSLER)	PORCELAIN SYSTEMS
ZirCrown™ (monolithic)	anterior & posterior; bridges up to 2 pontic span	900 MPa	<b>Cement:</b> enamel-dentin adhesive bonding system; Variolink® II; RelyX™ Unicem Self Adhesive Universal Resin Cement	deep chamfer or rounded shoulder	1.0-1.5 mm chamfer or shoulder @ 90°-110° angle; 1.5 mm axial walls; 2.0 mm incisal or occlusal	margins: upper incisor, cuspid & bi's-6878K-018; molar-6878K-021; lower incisor-6878K-014; lingual & occlusal-6368-023	
Zir-Max® (stacked porcelain over zirconia)	anterior & posterior singles; bridges <38 mm, Maryland bridges	80 ± 20 MPa	<b>Cement:</b> dual or self-cure luting cement, glass ionomer, zinc phosphate, Multilink®, RelyX™ Luting; Panavia™ 21; GC Fuji PLUS® resin-reinforced, glass ionomer luting cement	deep chamfer or rounded shoulder	1.0-1.5 mm chamfer or shoulder @ 90°-110° angle; 1.5 mm axial walls; 2.0 mm incisal or occlusal	gross-1958; minimal-846KR-016 & 6847KR-016	emax™ Ceram
Radiant™ (conservative prep veneer)	conservative prep veneer; facial & incisal reduction; little to no shade changes	65 MPa	<b>Bond:</b> purely light-curing adhesive luting composite, Variolink® Veneer, RelyX™ Veneer (less viscous material is most ideal for placing veneers)	shallow chamfer or rounded shoulder; rounded line angles	.4-1.0 mm facial; 1.0-2.0 mm incisal	gross incisal or occlusal-1958, drop shoulder-5856-018, finesse or finalize prep-5856-016 or 5856-014	lvoclar InLine®
Empress®	anterior-crowns & veneers; posterior-crowns; inlay/onlay	120 MPa	<b>Anterior-Bond</b> (light cure); Variolink® Veneer, RelyX™ Veneer (less viscous material is most ideal for placing veneers)	deep chamfer or rounded shoulder; rounded line angles	1.0-1.5 mm chamfer or shoulder @ 90°-110° angle; 1.5 mm axial walls; 2.0 mm incisal or occlusal	drop shoulder-5856-018, finesse or finalize prep-5856-016 or 5856-014	Empress® Esthetic
emax™ Press	anterior & posterior crowns; veneers; inlay/onlay	400 ± 40 MPa	<b>Bond:</b> any enamel-dentin adhesive bonding system; Variolink® II; RelyX™ Unicem; Calibra; <b>Cement:</b> any dual or self-cure luting cement, glass ionomer, zinc phosphate, Multilink®, RelyX Luting; Panavia 21; GC Fuji PLUS® resin-reinforced, glass ionomer luting cement	deep chamfer or rounded shoulder; rounded line angles	1.0-1.5 mm chamfer or shoulder @ 90°-110° angle; 1.5 mm axial walls; 2.0 mm incisal or occlusal	drop shoulder-5856-018, finesse or finalize prep-5856-016 or 5856-014	emax™ Ceram
emax™ CAD	cad fabricated lithium-disilicate	360 MPa	<b>Bond:</b> any enamel-dentin adhesive bonding system; Variolink® II; RelyX™ Unicem; Calibra; <b>Cement:</b> any dual or self-cure luting cement, glass ionomer, zinc phosphate, Multilink®, RelyX Luting; Panavia 21; GC Fuji PLUS® resin-reinforced, glass ionomer luting cement	deep chamfer or rounded shoulder; rounded line angles	1.0-1.5 mm chamfer or shoulder @ 90°-110° angle; 1.5 mm axial walls; 2.0 mm incisal or occlusal	drop shoulder-5856-018, finesse or finalize prep-5856-016 or 5856-014	



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Dr. Valerie Holleman, Broken Arrow, OK

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**ARROWHEAD**

# Using the Words That Work

## The Right Phrases Can Improve Communication.

Albert Einstein is quoted as saying, “The significant problems we face cannot be solved at the same level of thinking we were at when we created them.” In all my years in dentistry and in working with offices across America, I have found that miscommunication (the failure to communicate clearly) can create a lot of problems. The good news is that we can learn good communication by simply using words that work to solve the problems that (as the quote by Einstein suggests) we created in the first place.

I started paying attention to specific words and their effects in 1984. I was working in a dental practice and considered myself an empathetic individual, and yet sometimes I didn’t know exactly

what to say to patients. Even though I was kind to people, I wasn’t using the right words to help our practice grow. After I learned the Dr. Dick Barnes structure and began to implement it, everything began to improve in our practice. Using words that work can have an enormous effect on getting patients in the door and helping them get important treatment. I will give you examples of the right words—use these words in place of the words and phrases that you normally use. The suggestions that follow are just one part of the Dr. Dick Barnes structure that I found effective. I know they will help in your practice, too.

The best way that I can show the importance of using the right words is to give examples of a variety of situations in which

the wrong words are commonly used. By illustrating the effects of the *wrong* words, you’ll have a better understanding of why the *right* words are so important. Using the right words makes a big difference in a variety of situations.

### EVERYDAY CALLS

Typically, dental practices receive inbound calls (such as new patient calls, scheduling calls, cancellation calls, shopper calls, and emergency calls) and make outbound calls (such as confirmation calls) each day.

### NEW PATIENT CALLS

When a new patient calls a dental practice, employees often ask, “Are you a new patient with us?”





That phrase seems like a normal question, but it's inappropriate—it's using the wrong words. This question, while often sincere, is sometimes embarrassing for patients. It's embarrassing because perhaps the caller is an existing patient who just hasn't been to the office in a long time. By asking callers if they are new, it sends a message that they weren't important and that you don't remember them.

Once I was guilty of asking that question and I embarrassed both the patient and myself. The patient said, "Oh, I haven't been there for a long time, but I felt like I paid for the dentist's house and car many years ago."

To avoid this embarrassing situation, the right question to ask is, "How long has it been since you've been in our practice?" Simply phrasing the question differently eliminates any possible embarrassment for patients and staff members. If the patient actually is a new patient, he or she will simply state that they are new. Existing patients who haven't been to the office for a while will confirm how long it's been since their last appointment.

“

HOW LONG HAS IT BEEN SINCE  
YOU'VE BEEN IN OUR PRACTICE?

”

## SCHEDULING CALLS

Similarly, when scheduling appointments, many staff members ask patients, "When would you like to come in?" Such a question seems accommodating, but it doesn't get dental practices the response they want. Patients typically respond in one of two ways—they say they *never* want to come in, or they say, "I either want to come really early or really late, because I have a job."

A simple word change can resolve this issue. For a prophylaxis caller, ask, "Is morning or afternoon better for you?" With those words, you control where the patient fits in the schedule. So many dental practices tell me, "Well my patients can only come during this time," and it's not necessarily true.

When you clearly communicate the importance of getting dental work done, patients will stop telling you when they want to come in and instead they will ask, "How soon can I get started?" You can respond, "The doctor does those procedures during these particular times."

## CANCELLATION CALLS

Patient cancellations can be a complicated issue. From a business perspective, if all the patients cancel, who pays the bills? On the other hand, you never want to turn the patient into the bad guy. Sometimes I hear staff members tell patients, "We have reserved this time for you." That is neither appropriate nor effective because the patient is not concerned about the doctor's time or they wouldn't be cancelling. Patients often don't realize that they cost the office money by *not* showing up.

After a cancellation call, I often hear staff members say, "Oh, that's OK. Don't worry about it." From a business perspective,

it really is not OK! So what are the right words that will strike a balance between these two extreme responses? Ask the patient, "*Is everything OK with you? I know how important this visit is for you because of . . .*" This is when you bring up health issues or the other reasons why the appointment is important.

**The tone of your voice is very important—make sure your tone is even and calm. Try not to react.**

Be careful to use *exactly* these words. One time, a front office person told me this approach didn't work for her. When I asked her to repeat exactly what she said, she raised her voice and responded (as if she were speaking to the patient), "OMG! Are you *all* right?" In this case, the front office person didn't use the *right* words, she used her own words. Never say OMG! And the tone of your voice is very important. Make sure your tone is even and calm. Try not to react. I realize how important it is for patients to show up, because dentistry affects the overall health of the patients. However, a loud or harsh tone can cause patients to react, often negatively.

## SHOPPER CALLS

The purpose of every phone call is to get the patient in the door. Yet when someone calls and asks, "How much do you charge for a crown?" I often hear the receptionist quote a fee. Then the patient says, "thank you," and hangs up. That approach isn't effective for a growing business. The goal is to get patients in the door, and too many times staff members are too quick to give yes-and-no answers or to simply name a fee.

In my Total Team Training course, I explain how to get patients in the door by asking *more* questions. Instead of quoting a fee, the right words to use are, "*Has someone told you that you need a crown?*" If the response is yes, then the staff member should ask, "Is that a full porcelain crown? Or a porcelain fused to high-noble metal? Or porcelain-fused to a semi-precious metal? Could it be a full-metal crown with precious, or semi-precious?" The front office person should say anything that he or she knows about crowns! Doing so communicates that crowns have *many* variables. Then invite the patient to come into the office so the doctor can discern exactly which crown is best for the patient.

**In my Total Team Training course, I teach how to get patients in the door by asking more questions.**

Once the office knows what the patient wants and needs, a staff member can discuss fees with the patient. (Of course, this technique doesn't just work for crowns, it works for any other procedures a caller may inquire about.) Usually, callers don't know what kind of crown they may need, so you can say, "Let's do this," which are very kind words. Say, "*Let's do this. Come in and meet our dentist. He [or she] is amazing. In fact, I don't believe you would ever have a crown so good until you've had one from our dentist.*" The doctor will take a look at that tooth and ▶

recommend the crown that he [or she] believes is appropriate for it. Just come in so we can look at that one tooth and it would be no charge for the visit. Is that OK with you?"

After you get patients in the door, you can go from there. The initial visit for such a call is never more than 20 minutes of chair time, so you're not giving away the work. You are not going to do the crown that day—just start to build a relationship.

### EMERGENCY CALLS

Another common scenario is a call from an emergency patient. In this situation, the first step is to discern whether the caller has a true emergency. Too many times, patients with toothaches call and afterward, the receptionist says, "Oh, I'm sure they were drug seekers and we don't have time for them." It is important to ask questions of all callers and listen to the responses before making any judgments. At Total Team Training, we teach the qualifying questions.

## After you get patients in the door, you can go from there—just start to build a relationship.

Once you've discerned that a caller has a true emergency, say, "You definitely called the right office. We can help." Then continue with, "The doctor has a really busy schedule today. She [or he] will want to see you and we'll do something today to help you get out of pain." And then tell the patient when they can come in. "We can work you in to our schedule at . . . [include a specific time]." You should also tell the patient what's going to happen. For example, "The doctor will take an X-ray of the tooth and will do something today to help you get out of pain." Those are the words that matter to a patient who is really hurting.

Once the patient is in the office, handle only the emergency. Do not to turn the emergency visit into a comprehensive exam, because the patient didn't anticipate that. Too many times,



offices don't listen to patients and just tell them, "Well, since you're here, we'll go ahead and take a look at everything today."

Some offices lose emergency patients because they jump into a comprehensive exam on this appointment. When patients are hurting, they can't even think straight. At that time, patients are not ready to listen to the results of a comprehensive exam.

With emergency callers, the doctor should make the patient comfortable and let the patient know what is required to restore the tooth or to alleviate the pain. Once the patient is comfortable, the doctor can ask, "I bet you don't ever want to hurt like

## Phrases to Learn:

- LET'S DO THIS.
- I BET YOU DON'T EVER WANT TO HURT LIKE THIS AGAIN.
- HELP ME UNDERSTAND . . .
- I UNDERSTAND HOW YOU FEEL—OTHER PATIENTS HAVE FELT JUST LIKE YOU.
- LET'S FIND A WAY TO FIT IT INTO YOUR BUDGET.
- DENTAL PROBLEMS ARE PREDICTABLE.

“ THE DOCTOR WILL TAKE AN X-RAY OF THAT TOOTH AND WILL DO SOMETHING TODAY TO HELP YOU TO GET OUT OF PAIN. ”

that again, do you?" Without a doubt, the response will be, "No. I don't ever want to hurt like that again!" The doctor can then respond with, "The good news is you don't have to hurt like that again. What we're doing today is only temporary, so when you return for the treatment to restore the tooth permanently, we'll allow extra time and take a look at everything. Is that OK with

INSTEAD OF...	USE...
Are you a new patient with us?	<i>How long has it been since you've been in our practice?</i>
It's OK to cancel. Don't worry about it.	<i>Is everything OK with you? I know how important this visit is for you.</i>
Now that you're over the sticker shock . . .	<i>How do you feel about the treatment the doctor just recommended?</i>
What do you think?	<i>How do you feel?</i>
We'll see what your insurance covers.	<i>I'm glad you are here, because we have researched those benefits for you and we are going to help you understand them.</i>
I'm calling to confirm your appointment.	<i>We look forward to seeing you tomorrow at 9 a.m.</i>
When would you like to come in?	<i>Is morning or afternoon better for you?</i>
Your insurance is maxed.	<i>Fortunately for you, you've had the opportunity to use all of your available benefits this year. However, this treatment is so important, you shouldn't wait until next year.</i>

you?" After we began using those words in the practice where I worked, it was amazing how many emergency patients returned for comprehensive appointments.

## CONFIRMATION CALLS

Even though all dental practices call to confirm patient appointments, I don't ever use the word "confirm" with patients. The word literally sounds harsh and often puts people on the defensive. I also don't like to use the word "remind," because reminding someone of an appointment can be insulting. Nor do I recommend using the phrase, "Let me know if this doesn't work for you." If you say such phrases, you've given patients an easy out.

Instead, the appropriate words are, "*We look forward to seeing you tomorrow at 9 a.m.*" Then reiterate what's going to happen during the appointment. For example, "You're going to see our hygienist, Belle, for your cleaning and exam appointment. She's looking forward to seeing you."

## MONEY TALKS

It's not just in telephone conversations that the right words are important. I shudder to think of inappropriate comments I've heard financial coordinators make directly to patients. In one situation, after the doctor presented treatment, I overheard a financial coordinator say to a patient, "Now that you're over the sticker shock . . ." Those words immediately put a negative reaction into the patient's mind.

Another group teaches dental practices to ask, "What would keep you from moving forward with treatment?" That is also an inappropriate question because the patient immediately begins to think of all the reasons for *not* proceeding with treatment. Patients instantly think of such things as 'It's a lot of money. I need a new car. I've got a wedding coming up,' etc.

The right words to ask are, "*How do you feel about the treatment the doctor just recommended for you?*" And then let the patient talk about it. Don't ever ask the open-ended question, "What do you think?" because sometimes patients think, 'I cannot do this.'

“

**HOW DO YOU FEEL ABOUT THE TREATMENT THE DOCTOR JUST RECOMMENDED FOR YOU?**

”

If patients feel that the doctor's diagnosis is in their best interest, most will say, "I want it. I just don't know how I'm going to take care of it." Once patients confirm that they want treatment, it becomes a question of finances and the practice just needs to help the patient find a way to pay for it.

## INSURANCE QUESTIONS

Today, many dental offices are very insurance-driven. Often, prospective patients will call the office to find out whether the dentist accepts their insurance. Too many offices respond with, "No. I'm sorry, we don't," and just hang up! Don't assume that just because you're not a participating provider, a patient will automatically reject your office. If you're not a participating provider, you should be honest with the patient, but you can still work with them.

A good response to a patient whose insurance is not accepted is, "*We are not a participating provider with your particular*

*(continued on page 42)*



# A Dentist's Spouse

## Supporting Your Partner in a Two-Career Family.

I am not a dentist, but I'm married to one. My wife, Michelle Cannon-Hubbard, D.D.S., and I have been married for nearly three years. Michelle has been in practice for more than seven years. She worked in the public health sector for several years before finding a great fit in a private group practice.

As for me, during the past six years, I've worked in higher education and more recently, I joined the faculty ranks as the Assistant Professor for the School of Business and Nonprofit Management at North Park University—a small liberal arts institution located on the north side of Chicago, IL.

**Until I saw my wife in her professional setting, I had no idea the complexity and seriousness of her work.**

My growing area of interest as a professor is adaptive business practices. I want to help professionals apply managerial and leadership models in their workplaces so they can meet their personal or professional goals, whether it's being a better team player or learning how to resolve conflict. My background and life experiences may not be the same as yours, but many aspects of dentistry and supporting a spouse in his or her career are universal.

I didn't envision that my wife and I would embark on this journey of adaptive business practices but I'm glad we did. For the past couple of years, my wife has introduced me to the world of dentistry. During this time, Michelle has most often been the teacher, while I've sought to learn. At times I've been able



to offer my expertise, and more importantly, be a supportive spouse to her.

Prior to our marriage, my life was far removed from the daily activities in a dental office. However, Michelle and I have



learned some important lessons that we've found extremely helpful. The following are some of the lessons we've learned.

## THE OUTSIDER

A dental office is a complex, dynamic place. When I first visited my wife's office, I was taken aback by the level of intensity. I saw assistants working with patients, receptionists answering phones, hygienists doing cleanings, and the actual work of chairside dentistry happening in the midst of this organized chaos.

Dentists wear a lot of hats, even if you're not an owner. If things aren't running smoothly in the organization, it can prevent you from doing what you have been trained to do—dentistry.

When I brought this observation up to Michelle, she didn't see chaos or complexity. To her, it was just everyday dentistry. But because my work is in organizational leadership, it allowed me to identify the layers of what was going on in the organization.

Michelle was just doing her job. It never occurred to her to consider job titles and expectations, etc. Those layers of organizations are areas that I am well-versed in. In the dental practice, I noticed layers of responsibilities and complex dynamics.

At dental school, you are taught to be a dentist. Typically, dentists don't learn much about running the multi-layers of the business. An outsider's perspective can provide insight into aspects of the practice that dentists may not see. Conversely, until I saw my wife in her professional setting, I had no idea the complexity and seriousness of her work.

## EMOTIONAL INTELLIGENCE

As Michelle and I discussed the interactions within the dental practice, the work of psychologist Daniel Goleman, Ph.D. (best-selling author of *Emotional Intelligence* and other books) became prominent. Goleman suggests that being intellectually intelligent is the tip of the iceberg regarding how people understand one another. In other words, being smart isn't always the best predictor of success.

Emotional intelligence (also called the emotional quotient or EQ) is the ability of individuals to recognize and utilize emotional information—and is an equal, if not better, predictor of success than a person's intelligence quotient (IQ). People with a high EQ possess the ability to understand their own emotional capacity and understand others' emotional capacities. They can use those emotions to govern how they interact with other people.

In an organizational environment, such as a dental practice, understanding your emotions and how they drive the way you interact with people is a highly valued skill. People with a high EQ quickly pick up on non-verbal cues within the organization. I saw this going on constantly in Michelle's dental office. A lot of what



(Above) Michelle Cannon-Hubbard, D.D.S. and her spouse, Christopher Hubbard, M.B.A., M.A., Ph.D.

governed the “organized chaos” was implicit in daily interactions. Often, coworkers didn't say much out loud, but they still said a lot. You must be emotionally intelligent to pick up on these implicit conversations.

In a dental office, three different cultures are primarily at play. The first culture is found in the front office. In this area, staff members interact with “external stakeholders”—the patients and their families. The next culture is the “assistant” culture—which includes mostly auxiliary and support. Finally, you have the hygienist and the dentist culture, which also have different goals. All three groups have different boundaries of expectations from the front to the back of the office.

**We have learned some important lessons along the way as a couple who is committed to supporting each other.**

Inevitably, with any sort of organizational setting, there is conflict. Every organization has clashes in terms of expectations and the ability to think and respond appropriately. For instance, when a staff member walks out hurriedly from the operator, is he or she upset at the dentist or the patient or both? If he or she is upset, how do we know? Are we labeling the emotional response as being upset or tired? Which one is correct?

The ability to discriminate between emotions and to correctly identify emotions in the dental practice can lead to understanding the organization as a whole. The next step is to identify how spouses can offer support within this complex environment.

## THREE AREAS OF FOCUS

Understanding and empathy are hallmarks of support in any relationship. The following are three ways to increase understanding with your dentist-spouse. The first suggestion is simply getting to know the dental industry and your spouse's career ►





*Understanding the complexities of the dental environment can foster a good relationship with a dentist-spouse.*

on a local level. Get to know your spouse's colleagues. Get to know what the office looks like and how people interact. Then, get involved in learning about dentistry as a profession. It sounds simple, but it gives understanding and underscores what empathy looks like.

#### **The Local Environment**

For Michelle and me, my understanding increased after I began driving her to work when the weather was bad. Since I'm a professor, I work from campus a couple of days a week, but most of the time I can do my work anywhere. That meant that I could drive Michelle to work, do my work while she was working, and drive her home. But while I was at her office, I also talked to the assistants and to the front desk staff members, and I was able to observe the dynamics of the office. I got to know the other dentist in the office. By just being friendly, I got to know more about dentistry.

Involvement to this degree may not be possible for every spouse, since other professions may not offer the same flexibility as mine. But the idea of getting to know the industry and getting to know colleagues can happen in other ways. For instance, go to the office holiday party or office social events. A lot of spouses avoid getting involved on a social level, but doing so is a critical way to increase understanding and empathy. Most literature around career dynamics suggests that close proximity breeds understanding and empathy. Therefore, if you can see your spouse's environment and experience it firsthand, you will better

work, Michelle and I re-examined our financial priorities and we decided that the best thing to do was to get her a new car. Previously, she was driving her old dental school car. We upgraded to a luxury vehicle. That's understanding and empathy on a practical level. I realized that if she was going to drive this route everyday, she should drive a nice car to help improve her mood and make the drive itself less cumbersome.

It takes a conscious effort to be aware of your spouse's needs. Many times we get so busy in our own lives that it's hard to think beyond our own needs. Taking a step back can help us see practical ways to increase understanding and empathy.

#### **The General Profession**

The second area of support is to move beyond understanding the local office and the local organization and get involved in learning about dentistry in general. Continuing education (CE) drives a lot of the outside functions of any dentist who is engaged in his or her work. For Michelle and me, getting involved in dentistry on a general level meant attending CE together.

A few years ago, Michelle signed up for the New Dentist Program with the Dr. Dick Barnes Group, which included six different courses. The first one she attended by herself. Then, for the next class, I offered to go with her. She was surprised that I wanted to go. Initially, I anticipated just going along for the trip and any external activities outside of the course. But when Michelle mentioned to the instructor that I was visiting, he told her that I could come to the class.

Attending CE classes with Michelle gave deeper insights into the world of dentistry. It also helped me gain a little more understanding about what dentists do. The instructors kept using the phrase, "We're in the business of changing lives." My initial reaction was skepticism, honestly. It sounded like a sales or marketing pitch. Whose life are you really going to change? But during the course, I saw an actual patient before and after a full mouth reconstruction. Before, the patient smiled, but not fully. What she didn't say spoke louder than what she actually said. After the procedure, the difference was visible. Her confidence had completely changed. Her life had changed! In this way, dentistry was changing lives and I was able to see firsthand how dentists can really impact their patients.

## **Getting involved on a social level is a critical way to increase understanding and empathy.**

understand the organization and the emotional fortitude that it takes to be a dentist. The idea is simple. It's classic industrial organization psychology and what happens in social dynamics—if I walk a mile in your shoes, I can understand your story better.

Driving Michelle to work yielded understanding, too—Michelle works about an hour away from our home. I discovered that her morning commute was nerve-wracking! It was stressful on her body. Not too long after I started driving her to



Participating in continuing education contributed to a huge progression in understanding and empathy. Now, my wife is not just a dentist. She is in the business of comprehensive dentistry that is all about changing the lives of her patients. That shifts the perspective entirely.

On a very practical level, getting involved at such a level requires the spouse to suspend their judgment. It requires an ability to govern your own emotions while being mindful of others' emotions. It's not just showing up but showing up with a purpose, asking questions, and trying to understand.

Now that I have attended CE classes with my wife, I have experiences that paint a clear picture of reality. It's not just sales. The conversation is far more involved than that. It has been an interesting experience. It has kept us up at night talking. I think we have gotten closer as a couple because of it.

Attending CE with your spouse is not the only way to get involved on the general level. You can also learn more by reading dental magazines to learn what is going on in the industry. I also listened to CDs by Dr. Dick Barnes ("The Structure for a More Productive Dental Practice") in the car. Reading magazines and listening to CDs are things that any spouse would be able to do.

### The Personal/Professional Connection

The last (but not least) critical area of support is to get to know your spouse as a professional and not just a person. As I talk with other dental spouses, I've found that some people don't really understand dentistry through the lens of their spouse. It can lead to a clash of expectations. Many people tend to be somewhat different in their personal lives and their professional lives. Michelle is definitely that way. In general, as a professional, her inclination is to be introverted, somewhat shy, and a quiet individual. She does a lot of processing in her mind. She doesn't say a lot. But in her personal life—the Michelle that I am most acquainted with—she is more open and talkative.

Michelle and I invested a lot of time to get to know each other personally through all the things that we typically do, but it took extra effort to get to know my wife as a professional. Instead of looking at Michelle as "my wife," to truly understand her, I need to see her as "Dr. Cannon." Again, this perspective changes the conversation.

In the professional environment, everyone addresses her as Dr. Cannon. It forces me to think about her through that lens. The empathy she has for me at home isn't necessarily the same type of empathy she needs to have with a patient who, if they don't make a decision to get their dental work done right now, will have no other option other than to get all their teeth pulled out and to get dentures at a later time. It helps for me to differentiate between how I see her interact with her patients or her staff or the front office. It's a different nuance there.

### INTERSECTIONALITY

The concept of intersectionality can help with understanding the difference between a person and his or her profession. A scholar named Kimberlé Williams Crenshaw coined the phrase *intersectionality*, meaning that people are the sum of the categories that we use to understand each other. For example, Michelle is not only my wife, but she's a young African-American dentist

from Chicago in the predominantly male, Caucasian-dominant industry of dentistry. How do I understand her against the backdrop of these complex categories within which she is often placed? What does that mean then as a spouse to understand the nuances? It's germane to the larger conversation of what real support on an emotional, psychological level looks like.

**In the professional environment, people address her as Dr. Cannon. It forces me to think about her through that lens.**

There always is some kind of intersectionality that affects an individual's experience—whether it's education, social economics, gender, race, or experience—these are all categories that we use to understand one another.

To understand Michelle's experience as a dentist, I have to understand her background. When she graduated from dental school, she was 27 years old, but she looked—and still looks—much younger. And her gender puts her in a minority. People often assume that Michelle is a dental assistant.

In my own professional life, I have had similar experiences. For instance, when I walk into my classroom, I am often perceived as being a student. I always have to make an entrance or get there early. If I come in with everybody else, students often wonder why I'm up front at the teacher's podium. Seeing Michelle in her professional environment—at the office and in CE—helped me better understand what it is like to be Dr. Cannon.

### BENEFITS FOR EVERYONE

Getting to know different aspects of your spouse's profession and getting to know your spouse as a professional can help you better understand your spouse in general and increase empathy for them. Trying to understand Michelle as a dentist has improved our relationship and helped me professionally as well. ■



*Dr. Christopher A. Hubbard is the Assistant Professor of Management & Leadership for the School of Business and Nonprofit Management at North Park University (Chicago, IL), where he teaches courses in strategic leadership development, team leadership, change management, and organizational behavior. He earned a B.S. of Technology Education at*

*Bowling Green State University in Ohio. He is also a graduate of the dual masters program at North Park University, where he received an M.B.A. and an M.A. (Theological Seminary). At the Chicago School of Professional Psychology, he earned a Ph.D. in Organizational Leadership. Dr. Hubbard's research interests lie at the intersection of self-leadership, career success, organizational leadership, and religious praxis.*



Dr. Barnes teaching  
full arch dentistry,  
c. 1972.



Arrowhead  
at sunset.



All products are  
handmade at  
Arrowhead by  
expert technicians,  
c. 2008.



Dr. Jim Downs  
instructing at  
the Know Your  
Numbers course,  
c. 2014.



Kelli, a doctor relations  
representative works  
to ensure the doctor's  
requirements are met.



Attention to detail  
is a signature feature  
of the Arrowhead  
experience.





# Your Practice *is* Our Passion



*40<sup>th</sup> Anniversary*  
**ARROWHEAD**

**W**hen Arrowhead opened for business in 1975, things were a little different. We originally set up shop in southern California, in a one-room office with a single technician. Today, at our current location in the Wasatch Mountains of Utah, we've grown to include several hundred employees in a state-of-the-art facility.

But some things never change—like brilliant artistry, unsurpassed quality and a commitment to service. For forty years, we've provided creative solutions for discerning dentists. And you have rewarded us by making Arrowhead your partner. The Arrowhead experience provides some of the most precise, artistic, and innovative cosmetic solutions in the world—all handcrafted from the finest materials and finished by expert technicians in the U.S.A.

During the past forty years, Arrowhead has offered dentists more than just products. Our unwavering commitment to personalized service means that we provide education, one-on-one mentorship and individual attention every step of the way. Our goal is simply to help dentists become better and more productive.

As we celebrate this milestone, we offer our thanks for making Arrowhead a trusted part of your practice. Going forward, we promise to maintain our commitment to the success of your practice, the well being of your patients and our shared endeavor of elevating the art of cosmetic dentistry.

Together, we look forward to making the future beautiful—one smile at a time. Thank You.

# By the Numbers

## The Pull of Effective Online Marketing Campaigns.

In the past, traditional marketing was about pushing a message out to as many people as possible and hopefully convincing even a small number of them to take the next step—maybe calling a practice or visiting a website—and, if you were incredibly lucky, getting them to make an actual appointment.

Today, online marketing changes how dentists reach new patients. Online marketing changes the focus from pushing a message onto potential patients to pulling patients in when they're ready to make an important decision. It's no longer about convincing someone that they need your services. It's about being in the right place at the right time when a patient is looking for a new dentist.

### PULLING IT TOGETHER

Effective online marketing campaigns have a lot of moving parts. These parts include streamlining your website so it will interface with Google Maps, for example. Make no mistake, it takes some time to get everything working together. The simple fact is that quality work takes time, and quality (not quantity) makes a real difference in today's online marketing environment.

Online marketing is not a one-time activity. It's an ongoing process. You don't just "SEO-something" (optimize your website) once and hope for the best. When you pull the elements together in an effective marketing campaign, you reach more potential clients and become the top choice when someone searches for a dentist online.

**It's about being in the right place at the right time, when a patient is looking for a new dentist.**

So what does it look like when it all comes together? More specifically, what are the results when social media, an updated website, and SEO (search engine optimization) work well together? Let's take a look at some examples.

### AN EFFECTIVE WEBSITE

In the article, "Out of Site, Out of Mind" (*Aesthetic Dentistry*, Spring 2015), we wrote about what kind of image you may be projecting if your website doesn't meet visitors' expectations. If you have a modern, intuitive design for your website, you're far more likely to convert visitors into future patients.



It's easy to let a website dwindle into relative obscurity, especially if you don't make it a priority for new patients. But on the Internet, initial perceptions are critical—if you don't impress visitors in the first seconds they're on your site, you'll lose them.

If your website looks like it was made in the 1990s, it's not going to reflect well on your business. However, if you provide the kind of online experience that your potential clients expect, they'll spend more time on the site and it's more likely they'll follow through and contact your office for an appointment.

### CASE STUDY: DR. BRIAN L. BRITTON

In 2015, we worked with a client, Dr. Brian L. Britton in Arlington, TX, to update his website, and very quickly, things changed. We tracked the number of website visitors to his website who clicked on the "Contact" page (see graph, above).

A good website landing page makes it immediately clear what the business specializes in and gives visitors a reason to find out more. In this case, we made it easy for visitors to find the information they wanted as quickly as possible. During a typical visit to the website, the average number of pages viewed per session was three—meaning that most visitors likely saw the home page (or landing page), the "About" page, and the "Contact" page. By



making it easier to reach the Contact page, it also made it easier for visitors to make appointments.

Before redesigning the website, Dr. Britton's office reported 18 new patients in January 2015 and 25 new patients in February of the same year. After many updates were implemented, the number of Internet visitors making it to the Contact page increased, as did the number of new patients. In March of 2015, Dr. Britton's office had 36 new patients, which increased to 42 new patients in April and May of 2015.

The elements of an effective website include more than just a modern design (although that's very important). An effective website offers a quality experience in which patients can find the information they need as quickly and easily as possible.

## MAKING SOCIAL MEDIA EFFECTIVE

Social media is a great tool for promotion and for building authority. On many social media outlets, you can highlight testimonials, share stories about new employees in the office, and give patients a peek inside your practice with photos before they ever show up at your door.

In the Fall 2015 issue of *Aesthetic Dentistry*, the article, "Is Your Practice Anti-Social?" discusses the main social media platforms and the pros and cons of each platform. It's worth reiterating that more than 93 percent of adult Internet users in the United States are on Facebook, and roughly one in every eight minutes spent online is spent on that platform. Simply stated, a vast audience is on social media, and you need to be there in order to reach them.

Today, many patients expect a certain level of connection with medical professionals. Tech-savvy patients want to see what dentists can do through photographs and videos, and they want to get to know you. Social media is where dentists are getting most of their referrals.

Building a presence on social media has many benefits. First, as you increase the number of "Likes" on your Facebook page, you build a larger audience for each of your posts. The second

potential benefit is seeing people move from your Facebook or social media platform to click through to your own website where they can set up appointments.

Madison Smile Solutions, a dental practice in Madison, WI, showed significant Facebook growth as they focused on regular and relevant posts (see *graph, below*). It's important to remember that Facebook "Likes" alone don't really help your practice. You should look at the amount of traffic going to the website through social referrals.

## Social media is where dentists are getting most of their referrals.

Facebook is a potentially powerful tool for building an audience and generating website traffic. Madison Smile Solutions tracked 1,873 website sessions (a session is defined as a period of time a user is on the website) that resulted from people finding the site through Facebook. During the website sessions, patients had 2,389 page views.

Remember, different social platforms have different purposes. Don't neglect other social media channels. While Google+ and Yelp delivered far less traffic than Facebook, users from those platforms spent more time on those websites. In addition, visitors to Google+ and Yelp looked at more pages while on those sites.

Facebook is great for "making introductions"—people see you, look at your website, and learn who you are. Google+ and Yelp, on the other hand, engage users who are looking for slightly more detailed information from dental providers.

Of course, views and virtual visits are nice, but what about new patients? How many online users actually make appointments and visit the practice?

Madison Smile Solutions saw a lot of success by using Facebook for some highly targeted ads. They used the platform to reach a wide range of potential patients, and the numbers reinforced the effectiveness of ad campaigns.

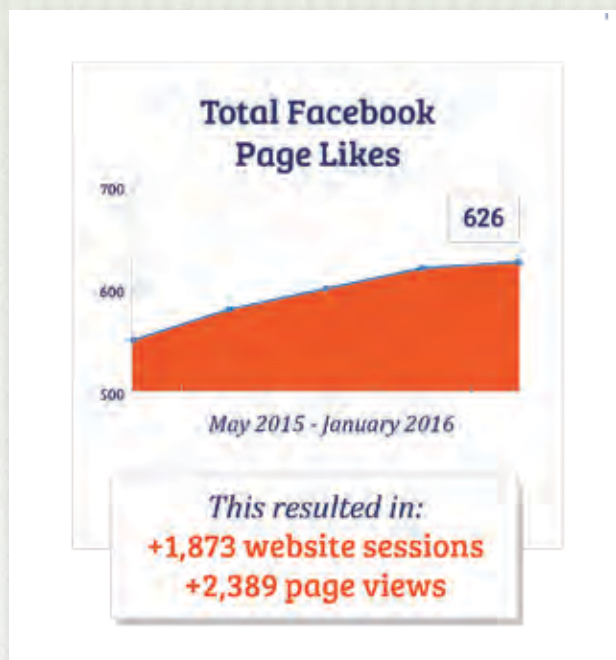
Facebook ads to targeted users "was a game-changer" for Madison Smile Solutions. The ads were surprisingly affordable (you can choose your budget and your target audience), and, in May 2015, changes were evident. Twenty-one new patients visited the practice in May, and the numbers kept growing. By December 2015, Madison Smile Solutions more than doubled the number of new patients for new appointments.

Keep in mind, when you initiate a social media campaign, "Likes" are important, but not as important as getting new patients through the door.

## FINDING YOU ONLINE

Today, the most common way for users to find a dentist is through a simple Google search. They may be looking for all the dentists in the area, or they may have heard of your practice specifically and want to know more about you.

Search engine optimization, which ensures a site's visibility in a search engine, streamlines the nuts and bolts of your website, and positions important pages to attract visitors who are ready to become your patients. Optimizing your site according to the ►







search engine guidelines can help your listing show up at the top of a new dentist search.

Building your rankings and traffic can take some time, but when it's done well, you will see a steady growth of visitors to your site. The graph at the top of the page shows the progress of a dental practice over a year (total website sessions)—from October 2014 to October 2015.

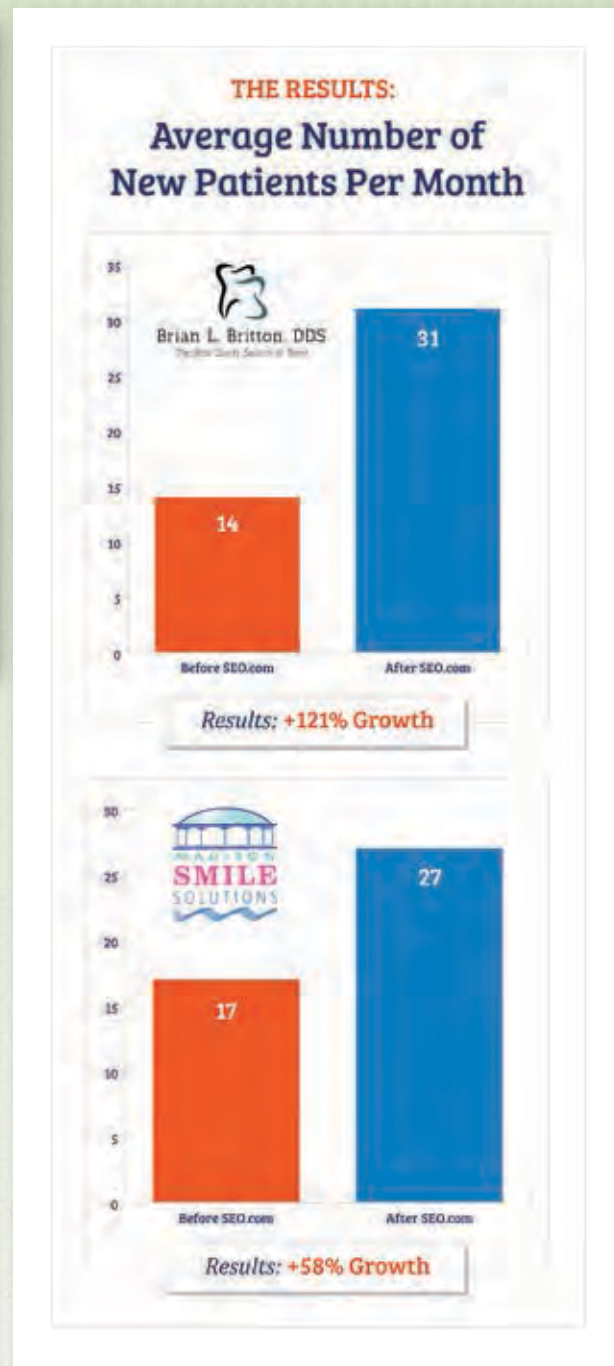
The number of people who found this dental practice through a variety of keyword searches led to 1,680 sessions from 1,108 new users. On average, Internet viewers visited three pages per session, and 231 of those users ended up on the “Contact” form.

As long as search engines rely on complex algorithms to deliver results to users (based on the keywords they use in their search), dentists will need to continually update and optimize their sites to meet those rules, guidelines, and expectations.

“Pull marketing” is all about getting customers to come to you, and in this article we’ve talked a lot about how a good website, social media, and search engine optimization all contribute to getting better results. But exactly what kind of results can you expect? Will this really lead to more patients setting more appointments? The numbers show that it does.

**Keep in mind, “Likes” are important, but not as important as getting new patients through the door.**

Dr. Britton has seen 121 percent growth in new patients by implementing these facets of a marketing campaign, while Madison Smile Solutions has seen 58 percent growth. There are a lot of people in your local area looking for a dentist right now, and if you know how to reach them in the right place and at the right time, you will be uniquely positioned to start seeing this kind of growth. ■



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# Made for TV

## A Recovering Bulimic Gets a New Smile.

The nationally syndicated television show *The Doctors* has made it possible for countless people, often in desperate situations, to find hope and a new beginning through various treatments and opportunities. When you work in dentistry on television, you find many people who are in need of help. I am grateful to be included as an expert on *The Doctors* for the past few years. I've served as a guest expert for dental reconstructions, smile makeovers, and dental advice. It has been a true pleasure to be part of their team. Recently, instead of us looking for a patient for a future episode, the patient found us.

*Samantha had come from a bad situation and was doing her best to get a second chance.*

Samantha Diane was in desperate need of a smile makeover. After reaching out and telling me her story, I evaluated Samantha's case with my public relations consultant and the



producers at *The Doctors* to determine if her case would be a good fit for the show. Together, we decided that Samantha was a good candidate for an upcoming, heartwarming episode.

Samantha has a career as a model, and has unfortunately made a few regrettable decisions in the past—but she has since turned her life around. That was a main reason why *The Doctors*



Dr. Joseph Willardsen and Samantha Diane on the set of *The Doctors*. The show originally aired on September 23, 2015.





*(Top) After extensive reconstructive work, Samantha Diane shows off her new smile on the set of The Doctors. (Above, left) Samantha—before the full mouth reconstruction. (Above, right) Samantha—after the full mouth reconstruction.*

decided to take on her case; she'd come from a bad situation and was doing her best to get a second chance.

### A UNIQUE CHALLENGE

An early challenge with Samantha's case was that she does not live in the city (or even the state) where my dental practice, True Dentistry, is located (Las Vegas, NV). For all her dental appointments, Samantha had to travel back and forth between southern California and Las Vegas.

On Samantha's first visit to the office, we did the initial exam. Unfortunately, after years of neglect and bulimia, her mouth was in poor shape. She wasn't taking care of her teeth. We found a lot of periodontal disease, enamel erosion, and infection, and many broken-down, non-restorable teeth. Because of the extent of the damage, we had to postpone our original tape date for *The Doctors* because there was just too much healing that needed to be done.

The next step was to get Samantha's periodontal disease under control. We needed to extract the infected, damaged teeth (two on the upper left, two on the lower left, and two

on the lower right), and it was necessary to do extensive bone grafting as well.

One of the biggest issues that we encountered was that a missing central tooth had been gone for so long, and no bone grafting had been done when the tooth was lost, so Samantha's whole buccal plate had collapsed in the anterior area. This

**We decided that Samantha was a good candidate for an upcoming, heartwarming episode.**

large defect in the bone was a challenge to restore. When that happens, it's difficult because you get a large shadow near the coronal portion of the restoration in the bone. Getting the correct shape, contour, and color is a difficult challenge for any restoring dentist.

Because I was using Arrowhead Dental Laboratory for the restorations, I knew the capabilities of the technicians. After extensive photos, preliminary impressions, and case planning, I discussed Samantha's case with the technicians. To solve our >





major aesthetic problems, we ultimately decided to use pink porcelain to correct the void and fill the tissue out. We discussed possibly doing an implant in that area, but the bone was extremely thin and the patient didn't want to undergo extensive grafting procedures.

Because of the patient's unique situation and her cosmetic desires, we decided to use some advanced techniques and new materials in pink porcelain and composites. Being able to use the pink materials helped solve a very difficult restorative problem for Samantha, especially in the anterior area. The biggest difficulty with pink porcelain is matching the tissue color, because when the tissues are inflamed, they turn red, but the pink porcelain doesn't ever change color. It can be a challenge to match shades.

To compensate for that challenge, we used the pink composite bonded to the porcelain so we could get an exact match to the client's tissue. That way, when we needed to, we could adjust the color to the final healed soft tissue.



(Above) Images of Samantha's before-and-after photos.

**We had to postpone our original tape date because there was just too much healing that needed to be done.**

It was first necessary to clean off multiple layers of stains and remove years of accumulated plaque. Controlling her periodontal problems was a major factor in her upper and lower arch. As the periodontal condition healed, it was necessary to contour the lower anteriors, and the teeth were bleached with the

Smile 365 bleaching system. The Smile 365 system was a perfect fit for Samantha, as her treatment and dentition were changing.

For the treatment materials on the uppers, IPS e.max™ with the pink porcelain was used. In addition to the pink porcelain, Gradia® pink composite was used. The restorations were bonded with Kuraray Panavia™ V5 cement. We used Alleman-Deliperi biomimetic techniques in repairing and bonding the tooth, including Ribbond® fiber mesh, Kuraray Clearfil SE Protect bond, Kuraray Majesty Flow, and Kuraray Clearfil AP-X composite. Because it was an e.max™ (porcelain) bridge, it was important to use the Kuraray Panavia™ V5 composite in combination with an immediate dentin seal technique to ensure the highest bond strength possible.

Because of the infection in her teeth, Samantha was in quite a bit of pain for the early treatments. The pain from her periodontal disease was very bad, too. We decided to use sedation—oral sedation and nitrous—to help Samantha and manage the pain during the procedures.

It took about four months to complete the entire process for Samantha. The uppers were prepped and the lowers were treated on separate visits. Completing her implant work will finish her case.

## A TRANSFORMATION

The biggest transformation for Samantha was when the temporaries were placed and she could see her new smile

*(continued on page 43)*



Stage 29 Productions/The Doctors





Hope Gordon, Elite Full Arch Reconstruction by Dr. Jim Downs, 2013.

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# White Wax-Up 101

## A Stunning 3D Model Shows Patients What's Possible.

Some dentists hear the term *White Wax-Up* and have a preconceived notion about it. But most dentists really don't understand just how beneficial White Wax-Ups can be for large-case dentistry. Diagnostic wax-ups can solve many problems associated with large cases and will bring consistency to the outcomes of your cases.

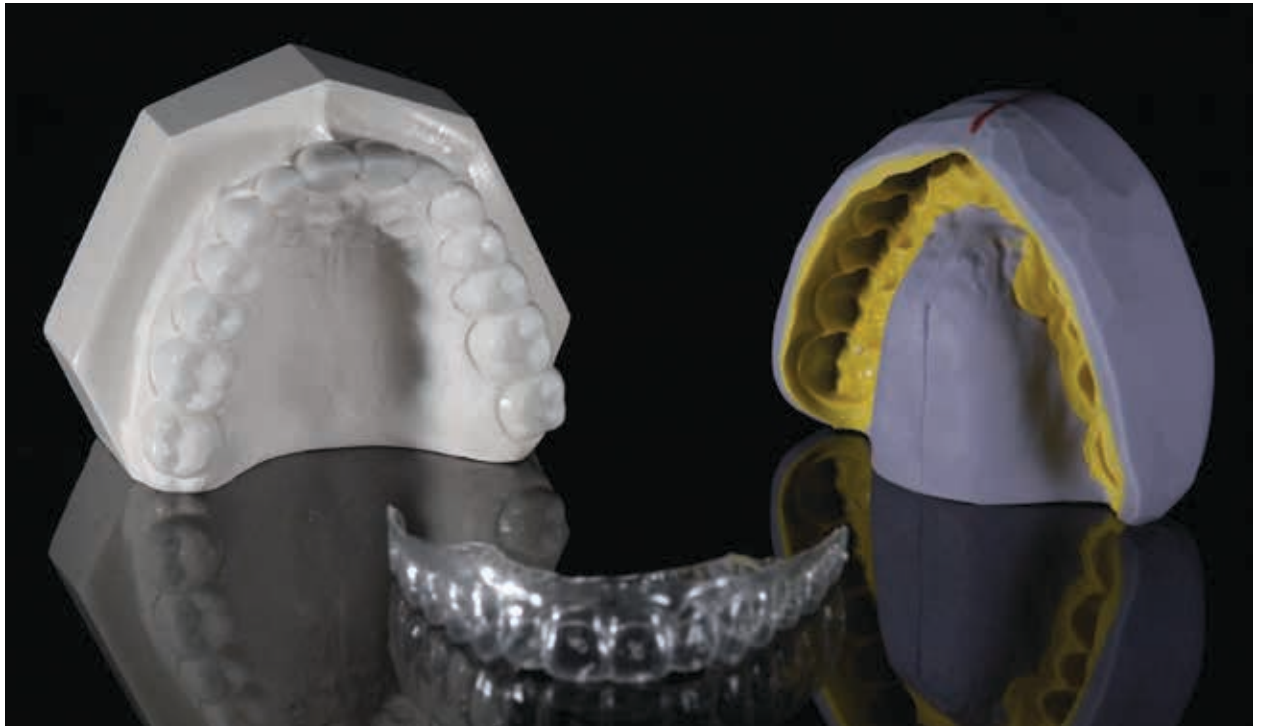
### A White Wax-Up is a strong indication of what can be done for patients.

I have been using White Wax-Ups from Arrowhead Dental Laboratory as a diagnostic tool for many years. For me, it is a guide for the direction I can go with patients, particularly those with worn dentition. The White Wax-Up is a predictability tool for learning more about the patient and determining what can be done in a patient's mouth. I use it to learn many things about

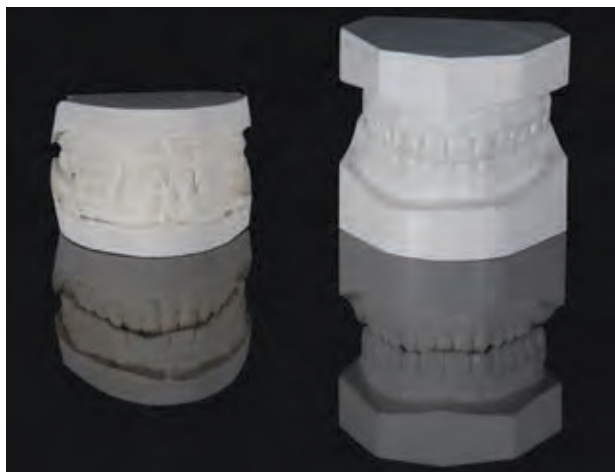
the patient—how much more I can open the mouth, what kind of tooth dimension will work, and what can be done to alleviate pain in the jaw joints. A White Wax-Up is a strong indication of what can be done for patients.

Years ago, we used computer imaging to import smiles from a library and create an artificial preview of a smile. Too often, the smile did not suit the patient's anatomy, so the before-and-after didn't really match. When we started working with the patient's anatomy, sometimes we couldn't re-create the same look. Patients were often not happy with the outcome.

A White Wax-Up gives a true indication of the anatomy of the patient. It's based on preliminary impressions of the patient. Once it is ready, the dentist can work within the confines of the mouth's true parameters to get an outcome that will satisfy everyone. The new teeth also last better with a White Wax-Up. They do not chip and break because the new smile fits the anatomy of the patient.



(Above) Arrowhead's White Wax-Up (left), Clear Reduction Guide (middle), and Temporary Matrix (right). They are tools to help doctors succeed in creating new smiles.



## BENEFITS OF A WHITE WAX-UP

For my patients, a wax-up is a necessity. A White Wax-Up simplifies prep for the dentist, saving time and stress. It provides an opportunity for the patient to “test drive” the mouth before things are permanent, increasing patient satisfaction with the finished product and decreasing the chance of failure. A White Wax-Up improves the dentist’s communication with the lab and eliminates guesswork. The wax-up is a diagnostic tool that keeps you in structure. Not having one creates a lot of stress! Once you have this structure, you can overlay a reduction guide and start the actual execution of the case in prepping.

Without a White Wax-Up, doctors’ axial inclinations of the preps can be all over the place. They might over-prepare or under-prepare or angle the teeth in the wrong direction. With the wax-up as a guide, a dentist has a framework that takes her or him through all the steps required for an optimal outcome. It’s predictable. It’s adaptable. It’s sustainable throughout the whole process. If you spend the time with the diagnostics, then it should be fun on prep day!

The White Wax-Up not only lets you see what the case is going to look like, but you can then show the patient so he or she also knows what to expect.

After prepping, you have to temporize. You have to provisionalize the teeth. This is where the Sil-Tech matrix, which is made off of the White Wax-Up, comes in. You can inject acrylic temporary material into the Sil-Tech matrix and then create a model made from the White Wax-Up and insert it in the patient’s mouth. You can’t do that with a picture!

With these tools, dentists can test the environment—meaning the look, the feel, and the functionality of the new teeth. You can determine if the Shimbashi measurement is right, if you chose the right length, if the gum heights are correct, and whether the axial inclinations are right. All the decisions made in the diagnostics can be tested. It’s an opportunity to “test drive” the design before it’s fabricated.

The patient can go home with acrylic temporaries to see how everything feels. Then he or she returns in 48 to 72 hours, so you can look at the smile—the shape, the size, the shade, and the gum height. You can test everything. It is the perfect time to work everything out. If the patient gives the approval, then you can order the finals. I find it’s rare that a patient doesn’t like it.

Using White Wax-Ups is also a huge time saver! For a dentist who is doing their first full arch, I recommend scheduling a morning to work on it—that’s five hours. If they didn’t have the White Wax-Up, it would be an all-day event, and an extremely stressful one as well.

A White Wax-Up also helps improve the final product. When communicating with the lab, there is no guesswork if you use the wax-up because it is sent back with the case. All you have to do is tell the lab, “Follow the White Wax-Up.” The only time there is a variance is if you’ve made some substantial changes on the temporaries. But in such cases, all you have to do is take an impression of the temporaries in the patient’s mouth, pull that out, tell the lab, “follow this exactly,” and they can do it.

Communication becomes easy, much better than a long dissertation that dentists often write to a lab, and which a technician is left to try to figure out.

The White Wax-Up really becomes a differentiator in the marketplace. Once it becomes commonplace in your practice, you begin to get the reputation for being able to deliver the Mercedes-Benz® outcome for your patients!

## 3 Ws of White Wax-Ups

**WHO: ALL PATIENTS WITH LARGE-CASE DENTISTRY**

**WHY: ENSURES OPTIMAL OUTCOMES**

**WHEN: AFTER A PATIENT ACCEPTS CASE PRESENTATION**

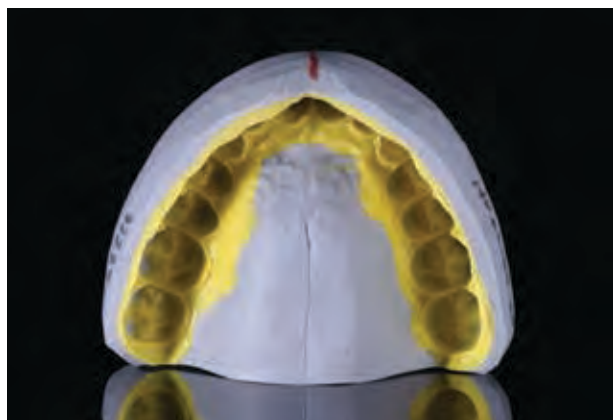
## PROCESS

Now that you know why White Wax-Ups are beneficial, let’s talk a little about the process. The starting point is taking the diagnostics of the patient. The first thing I look at is the Shimbashi measurement—a measurement from a particular point on the upper central incisor to the lower central incisor. On typical cases where someone’s dentition and facial aesthetics look adequate, the measurement is usually between 16 and 18 millimeters from that upper central to the lower central.

**A White Wax-Up is an opportunity to “test drive” the design before it’s fabricated.**

The Shimbashi becomes a quick and easy ascertainment of wear. If someone has a Shimbashi of 12, that means that their teeth on the upper and lower have worn to such a position that their nose and chin are getting closer together. When that happens, it throws the muscles off. When the muscles are off, they can overheat, and the patient starts getting headaches and popping and clicking in the jaw joint. ➤





After taking the Shimbashi measurement, you can determine how much to open the bite to fix the situation of the muscles and the jaw joint, and then get the aesthetics that the patient wants. You can open his or her bite in accordance with what is comfortable for the muscles and jaw joints.

The next step is to determine the measurement of the front anterior central that matches the facial type. There are three main facial types. One is a square boxy head, known as brachiocephalic. Next are the square taper and ovoid. These two together are called mesocephalic. Finally, there are the long skinny faces, called dolichocephalic.

Why is this important? Dentists should design teeth that match the facial type. If I put some nice long teeth on a brachiocephalic, they're going to break those right off. These individuals chew left to right to eat. If we put in nice long teeth and nice high cusps in the back, they're going to rip them apart. Instead, the posterior teeth have to be almost like a flat tooth in order to give them clearance in the front, so when they slide left and right they don't climb or get locked in.

## You can use the White Wax-Up as a diagnostic tool to see what smile you will be able to create.

Once you determine the facial shape, you and the patient can decide the look of the smile you will create. On the Arrowhead laboratory slip, we have a number of different looks, such as "Enhanced," "Hollywood," or "Natural." You can use the White Wax-Up as a diagnostic tool to see what smile you will be able to create.

Another component to the White Wax-Up is the importance of taking great photography of someone's smile. From photography, you can determine if you have recession on one tooth and whether you should bring the other teeth up or bring that gum down. You can decide whether you need to include an appointment with a periodontist for gum grafting as part of the process. All these decisions play a role in the final outcome.

The gums are a critical part of the equation. The gingiva provide the framework to the picture, which is the teeth. When a doctor focuses only on the teeth, it shows. I see pictures in journals where the teeth look great, but the gum heights are all over the place. They look bulbous. They look inflamed. This can

be avoided if you look at the gums and gum health first to make sure the teeth look natural, healthy, and beautiful. On the White Wax-Up, the doctor can determine where that gum should go. In most cases, you can lift gums one to two millimeters. Gingival height is important for the White Wax-Up, so that the symmetry from left to right looks the same.

### ENSURING SUCCESS

The White Wax-Up is a guide that improves the chances of success when used correctly. Some additional strategies can also help. Before you start the diagnostic process, determine whether the patient has any symptoms that should be dealt with: headaches, jaw clicking, or other indicators of problems with bite. These problems have to be eliminated and mapped out before moving forward. Once any symptoms are taken care of, I have five "must-dos" that are keys to success:

**1. Provide Accurate Models.** Since you are basing your success on the White Wax-Up, you must have impeccable impressions of the upper arch and lower arch—especially the upper arch, where we see hamular notches in the posterior and good peripheral extension. You have to see the anatomy well because the Sil-Tech will be based on the anatomy of the White Wax-Up. **Do not send in inadequate models!**

**2. Include Good Photography.** With good photographs, you can examine and analyze things differently after the patient has left. Photography is not only a great communication tool for case presentations, it's also great for letting the technician see what

## 5 Must-Dos

1. PROVIDE ACCURATE MODELS
2. INCLUDE GOOD PHOTOGRAPHY
3. MAKE SMILE GUIDE DETERMINATION
4. DETERMINE THE GOLDEN SHIMBASHI
5. PERFORM PERIODONTAL PROBINGS



kind of patient they are working with—their smile line, their facial type, and their gum line.

**3. Make Smile Guide Determination.** Too often, doctors don't choose a particular smile—whether it is Enhanced, Hollywood, or Natural—in accordance with what they're looking at for facial types. The central incisors are chosen with a formula of width divided by length in a percentage range of 75 to 80 percent. Seventy-five percent is closer to the long face. Seventy-eight percent is perfect for mesocephalic, and brachiocephalic is about 80 percent.

**4. Determine the Golden Shimbashi.** In the past, doctors often used a formula to figure out the Golden Shimbashi with seven or eight questions. I found that doctors weren't taking the time to fill it out, so we simplified it. If the doctor provides the width and length of central incisor, the lab can determine the golden proportion.

**5. Perform Periodontal Probing.** The probings are in those anterior eight teeth on the top. You have to probe the pocket depths of those gums so that you can determine if you can truly take that gum height to where they want it.

## CHOOSING WHITE WAX-UPS

Keep in mind that not all wax-ups are the same! I have seen some that look terrible! When you present wax-ups to a patient, they have got to look white and clean and professional. First impressions are important, and if you can present something that looks exquisite, that's a reflection on you and what you will deliver. It can increase patient trust and confidence.

This is particularly true for prefabricated wax-ups. With prefabricated wax-ups, dentists can spend a lot of time trying to make the provisionals work, and they often still don't fit the patient. Such wax-ups are kind of an overlay, like a tomato on fence post. They end up looking bulbous and bulky. Arrowhead's White Wax-Ups are a true representation of what the patient is going to get, not a prefabricated model.

The White Wax-Up that Arrowhead provides is more than just the wax mock-up of the end result. You also get a Sil-Tech matrix that gives the true emergence profile, so you can develop the smile off of those teeth, instead of using prefabs.

## SELLING THE PATIENT

When it comes to White Wax-Ups, how do you position them in the case presentation process? It is not a bad idea to

have a model to use as a demo. Even a new doctor without any cases may want to invest in one. That way, you can have a before-and-after to show the patient how you will proceed. When the doctor talks to the patient in the case presentation, it gives the patient confidence because the doctor spent the time to do the diagnosis.

A lot of doctors ask me if they should order a patient's White Wax-Up before the case presentation. My rule is not to order it until you've done the case presentation, because if the White Wax-Up is done and the patient hasn't accepted treatment yet, then they've just spent anywhere from \$500 to \$1000 on a wax-up that is now useless.

The only time I break from my rule is when I see that we need to do the lower six. With such a case, I go ahead and have the lower six wax-up done as well, and I don't charge the patient. I just want the patient to see the difference. It's a risk that I prefer to take (and one that pays off about 80 percent of the time) so I can get to do the case. I think when you're doing cosmetics, anytime you're doing aesthetics of the front upper six or eight teeth, there absolutely should be a White Wax-Up. That's a hard-and-fast rule. Also, if the Shimbashi drops down below 14.5 millimeters, there should be a White Wax-Up.

**When you present wax-ups to a patient, they have got to look white and clean and professional. First impressions are important. It's a reflection of who you are.**

A sample White Wax-Up is a nice way to show what the process looks like without doing an individualized White Wax-Up on every patient that walks in the door. In my practice, I typically do not order a specific patient's wax-up until after the case presentation or the diagnostic appointment. When I present the case and the fee, I include the cost of the White Wax-Up. I don't position it as a separate cost. Once they accept a case, you lump it in. It's all one fee.

If patients have objections to the White Wax-Up because of cost or other factors, tell them that using one will allow you to be as precise as possible and will give them the chance to test things out in advance. Communicate that the White Wax-Up is an important step in determining the preparation work and the fit. It is worth the expense to have a great final product. ■



*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 mouth reconstruction cases. He maintains an aesthetic, family-oriented practice in Denver, CO.*



# Predictability in Full Arch Reconstructions

## Step-by-Step Planning Leads to Successful Results.

Today's patients are more educated than ever before. With easy access to the Internet and social media, public awareness about cosmetic dental procedures has grown. This increased knowledge often translates into greater demands for aesthetic restorative treatments from dentists.

Unfortunately, some dentists shy away from aesthetic restorative treatments due to a fear of large-case dentistry, or for any number of reasons. The increased demand for aesthetic restorative treatments can be challenging for dentists, lab technicians, and dental manufacturers alike.

**With digital planning, quality materials, and effective techniques, restorative teams can deliver life-changing dentistry.**

But dentists need not fear. With digital planning, quality materials, and effective techniques, restorative teams can deliver life-changing dentistry. A step-by-step approach to planning, preparation, and material selection delivers predictability to large-case dentistry, and patients will receive the results they desire.

### CASE PRESENTATION

A patient I recently worked with provides a good case study for this approach. A dental provider referred a man in his

late thirties (see *photos, page 39*) to my practice because he was dissatisfied with the appearance of his smile—the patient felt that his existing teeth and restorations were unattractive because of recurrent decay, wear, and discoloration (see *Figure 1, page 39*). More importantly, he reported suffering from headaches, bruxing, and a limited range of function.

At the first appointment, the diagnostic evaluation consisted of a series of digital images with study casts, a centric relation bite record, a facebow transfer, and a full mouth set of X-rays. From these diagnostic tools, I learned that the patient had several teeth with worn composite restorations, as well as abfractions with cervical decay in the maxillary arch. Tooth number 5 had an existing crown on an implant.

In the lower arch, several existing composite restorations showed wear, and there was decay on the facial cervical areas. Although no restorations were present in the anterior mandibular teeth, there was severe wear in the incisal edges due to possible grinding, parafunction, and end-to-end bite.

### PLANNING

Based on the clinical findings, as well as the mounted models, I diagnosed the patient with a restricted envelope of function and decreased vertical dimension from continuous wear. I used a diagnostic 3D White Wax-Up from Arrowhead Dental

Laboratory to develop a treatment plan and determine if the vertical dimension could be increased (see Figure 2, below). With this service, dental providers also receive a preparation guide and a temporization fabrication template (see Figure 3, below).

After examining the White Wax-Up, I concluded that the vertical dimension could be increased by 1.5 mm. After the initial consult and digital images, I determined that lengthening the maxillary centrals by 1.3 mm would improve aesthetics. I also lengthened the canines to restore canine guidance in lateral excursions. With regard to the patient's lower anterior teeth, the goal was to correct the length-to-width ratio and create a less worn appearance.

After gathering information from the diagnostic wax-up, I determined that restoring the entire dentition would enhance aesthetics and function. Tooth number 31 was already missing and tooth number 2 already had a root canal, core, and crown restoration. I decided not to remove this restoration since it did not oppose a lower tooth and was not visible when the patient smiled.

The treatment plan included crown restorations and involved placing composite cores where needed on teeth numbers 3 to 15 in the upper arch, and on teeth numbers 18 to 30 in the lower arch. For the crown restorations, I selected Arrowhead Dental Laboratory's ZirCrown™, which is fabricated using Zenostar® (Ivoclar Vivadent). According to the manufacturer, the translucent zirconia material of Zenostar® combines excellent flexural strength with the aesthetics of natural tooth shades. Zenostar® is suitable for making monolithic restorations, but can also be used as an aesthetic framework material.

With full contour Zenostar® restorations, there are two methods to choose from in order to achieve the desired shade: the Zenostar® brush infiltration technique or the Zenostar® staining technique. Six pre-shaded zirconia blanks—pure, light, medium, intense, sun, and sun chroma—form the basis for reproducing the patient's natural dentition. Due to their warm, reddish nuance, Zenostar® Zr Translucent sun and sun chroma are suitable for restorations with individual color characterization, and can be used for patients whose natural dentition deviates from classic tooth shades.

## BEFORE



## AFTER



Additional benefits include the following:

- Full contour zirconia crowns and bridges without a ceramic veneer
- No chipping
- Cost effective and aesthetic metal-free restorations
- Biocompatible and durable material
- Suitability for cases where occlusal space is limited
- Pre-shaded zirconia for staining and glazing

## PREPARATION

After informed consent was obtained from the patient, we initiated treatment with the following steps:

1. Following consent, we administered anesthetic.
2. Existing crown restorations were removed and the teeth cored with composite (where old amalgam cores were present or any indication of recurrent decay in the tooth) using a Midwest® Multiprep™ Carbide Bur (Dentsply).
3. Adhese® Universal bonding agent (Ivoclar Vivadent) was applied following the manufacturer's protocol and cured using the Demi™ Ultra (Kerr Dental) curing light.
4. Using MultiCore® Flow light (Ivoclar Vivadent), build-ups were accomplished on any teeth requiring cores.
5. A clear reduction guide (Arrowhead Dental Laboratory) >



Figure 1: Preoperative Retracted View

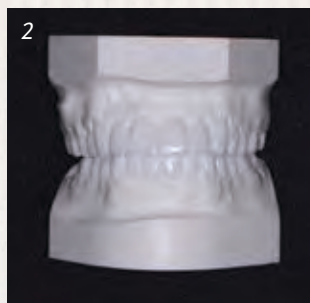


Figure 2: 3D White Wax-Up

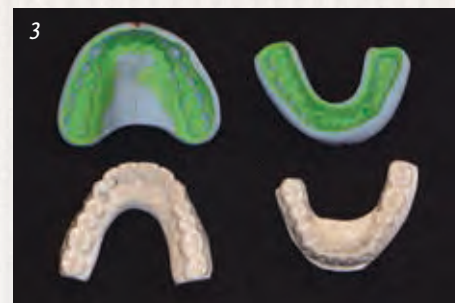


Figure 3: Preparation Guides and Temporary Guides



provided with the 3D White Wax-Up was used to ensure adequate reduction for the definitive restorations. The clear reduction guide allows the dentist to work quickly and comfortably, and to know exactly how much to prepare each tooth for the best result.

6. Using a coarse grit chamfer diamond bur 856 (Axis), the entire dentition was prepared for Zenostar® crowns starting from teeth numbers 3 to 15, and then teeth numbers 18 to 30. Once these teeth were prepared, I obtained a sequential bite using Blu-Mousse® VPS (Parkell) bite registration material.
7. I selected a stump shade (Ivoclar Vivadent) matching the preparations to help the laboratory technician create natural-looking restorations.
8. Utilizing Expasyl™ (Kerr), we controlled hemorrhaging, and also achieved gingival retraction. After approximately two minutes in the sulcus, the Expasyl™ was rinsed off thoroughly with copious amounts of water.
9. A full arch impression was taken using Instant Custom C&B Trays (Good Fit®). Made of a proprietary material (polymethyl methacrylate—PMMA) that becomes adjustable when heated in boiling water, these trays provide a quick, efficient way of capturing a dimensionally accurate impression with uniform thickness of impression material.
10. Once molded and customized to the patient's maxilla and mandible, full arch impressions were taken using a heavy and light polyvinyl siloxane impression material (Take I® Advanced™, Kerr).
11. After the impressions were completed, a bite relations jig fabricated on the 3D White Wax-Up model was tried in the mouth.
12. I placed light body impression material (Take I® Advanced™, Kerr) into the relations jig and seated it in on the prepared teeth (see Figure 4, below). I asked the patient

to bite into the relations jig until he reached the vertical stops. With the patient gently biting on the vertical stop, the material was allowed to set.

13. Instructions for the size, shape, and color of the final restorations were forwarded to the dental laboratory (Arrowhead Dental Laboratory), as well as the 3D White Wax-Up models.

### PROVISIONALIZATION

A provisional restoration, which would aid in determining the best size, shape, color, and position for the definitive restorations, was made from a Sil-Tech (Ivoclar Vivadent) impression of the 3D White Wax-Up. I quickly filled the Sil-Tech mold using a B1 shade of Structur 3 (VOCO America) temporary material, and then placed it on the patient's prepared dentition. Within minutes, I fabricated and effortlessly trimmed the provisionals with trimming burs and discs (Axis).

Once the teeth were desensitized with Systemp.desensitizer (Ivoclar Vivadent) and dried, I temporarily cemented the provisionals using TempBond™ Clear (Kerr). The patient was instructed about caring for the provisionals and using them in eating, speaking, and biting.

**The patient reported that he no longer experienced discomfort in his TMJ and that his bite felt great.**

A few weeks later, the patient returned for evaluation of aesthetics, phonetics, and bite. He was excited about his provisional restorations, commenting that all his coworkers noticed he looked younger and happier. He also reported that he no

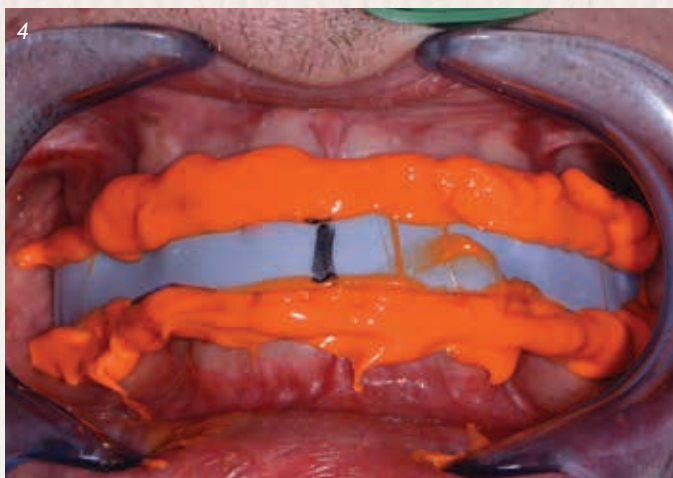


Figure 4: Bite Jig Relined Capturing Full Arch Bite



Figure 5: 3 Shape Virtual Design Open



Figure 6: 3 Shape Virtual Design Biting



longer experienced discomfort in his TMJ and that his bite felt great. I instructed the dental lab to replicate the 3D White Wax-Up when fabricating the final restorations, as I made no adjustments or modifications to the temporaries.

## LABORATORY CONSIDERATIONS

The 3D White Wax-Ups, color photographs, impressions, and bite relations were forwarded to the dental lab (Arrowhead Dental Laboratory). A scan of the 3D White Wax-Ups was used to select an appropriate arch form, tooth size, and occlusion from the library of teeth available in the 3Shape software (see Figures 5 & 6, page 40). Using 3Shape Communicate, images of the proposed reconstruction were forwarded to my office by email. Any minor adjustments in tooth shape and contour were communicated to the technical advisor to achieve the ideal aesthetics. Once I received approval, the milling process began (see Figure 7, above).

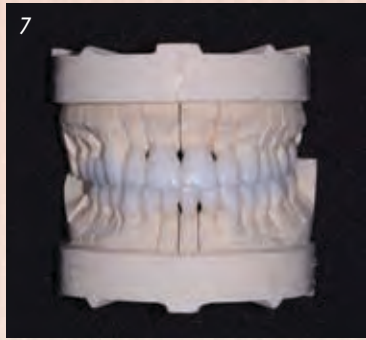


Figure 7: Zenostar Monolithic Restorations on Model; Figure 8: Postoperative Retracted View

## CEMENTATION

The patient returned three weeks after the postoperative appointment for removal of his provisionals and placement of the definitive restorations. Once appropriately anesthetized, I removed the provisional restorations with the Easy Pneumatic Crown and Bridge Remover (DentCorp). Any remaining temporary cement was removed and the teeth further cleaned with a 2% chlorhexidine gluconate solution (Consepsis®, Ultradent Products, Inc.). The Zenostar® (Ivoclar Vivadent) crown restorations were tried in to verify marginal fit, contour, and accuracy. The patient examined the appearance of these restorations with a hand mirror. Once satisfied, he approved them for final cementation.

After the restorations were removed from the patient's mouth, they were cleaned with Ivoclean (Ivoclar Vivadent), a universal cleaning paste indicated for cleaning of prosthetic restoration surfaces that have been contaminated during intraoral try-in. The active ingredient is sodium hydroxide, which is for extraoral use only.

Once shaken, the material was applied to the restorations and then thoroughly rinsed. Cleaning the restorations in this way prior to final installation enhances the bond strength between the indirect restoration and adhesive cement.

After the preparations were washed and dried, I applied Adhese® Universal (Ivoclar Vivadent) (a single-component, light-cured adhesive) to the teeth using the VivaPen® (Ivoclar Vivadent) dispenser. Adhese® Universal (Ivoclar Vivadent) was used with the self-etch technique. I was careful to ensure there was no pooling of the adhesive before curing it for 10 seconds with the curing light.

I seated the crown restorations utilizing Variolink® Esthetic DC (Ivoclar Vivadent), a neutral shade of dual-curing adhesive resin cement. To prevent any canting of the restorations, I started

from the midline and worked my way out distally. The restorations were secured until final polymerization was achieved. According to the manufacturer, some of the advantages of this cement are excellent shade stability, lifelike fluorescence, easy clean up, and increased radiopacity.

**The patient was excited about his provisional restorations, commenting that all his coworkers noticed that he looked younger and happier.**

The occlusion was checked and verified with the T-Scan® (Tekscan®) to make sure that the proper points of contact were in their ideal positions. The patient no longer experienced any pain and was pleased with his new smile (see Figure 8, above).

## CONCLUSION

Dental providers can address the patient's needs more effectively when they have a systematic method for treatment planning, material selection, tooth preparation, and cementation. Because of this, the outcome will be more predictable aesthetically and functionally. ■



*Dr. Ara Nazarian maintains a private practice in Troy, MI, with an emphasis on comprehensive and restorative care. He is a Diplomate in the International Congress of Oral Implantologists (ICOI). His articles have been published in many of today's popular dental publications. Dr. Nazarian is the director of the Reconstructive Dentistry Institute.*

*He has conducted lectures and hands-on workshops on aesthetic materials and dental implants throughout the United States, Europe, New Zealand, and Australia. Dr. Nazarian is also the creator of the DemoDent patient education model system. To reach Dr. Nazarian, please contact him at (248) 457-0500 or [www.aranazariandds.com](http://www.aranazariandds.com).*



insurance plan. However, we receive all new patients here and will be happy to research your insurance benefits, file your claims, and help you with your reimbursement."

Then if the patient says, "If you don't take my insurance, I probably am not going to come there," you can respond, "I believe it would be your loss to never meet our dentist, and I know you would never have a crown as good as the one you would have from him [or her]. But you know what the greatest loss of all would be? We all would miss the opportunity to meet you. So let's do this. Let's have you come in and meet him [or her] and take a look at that one tooth." Remember, you want to get the patient in the door and build the relationship, but you have to know the right words to say. Words *do* matter.

When working with existing patients, I hear too many dental employees say, "We'll see what your insurance covers." Such a statement implies that if insurance doesn't pay for it, the treatment is not important. Change the focus from what insurance will cover to helping the patient understand the benefits of their insurance plan. The right words are, "I'm glad you're here, because we have researched those benefits for you and we are going to help you to understand them."

“

WE WILL BE HAPPY TO RESEARCH YOUR INSURANCE BENEFITS, FILE YOUR CLAIMS, AND HELP YOU WITH YOUR REIMBURSEMENT.

”

### MEASURING SUCCESS

The number one clue that you need to change your words is if patients are *reacting* and not *responding*. I don't want patients to react, I want them to respond. There's a difference.

What is the difference between a reaction and a response? Consider this: the words "adverse" and "reaction" are often paired. You may think of it in terms of having a reaction to a medication or something that you are allergic to. That's bad. That affects you negatively.

If you find that patients are reacting in the same way they always have ("I'm not going to do what you ask me to do"), or you don't ever get the patients scheduled, or they become defensive, then you have not used the right words.

We want patients to *respond*. When you respond to something, it's good. When you're ill and you're on a medication that has been prescribed, you begin to respond to the medication and you get well.

In order for the words to get the right response, staff members must change the words they use. Part of this is committing certain phrases to memory. Memorization helps, and so does repetition. In the office where I worked, we always held each other accountable. I told my co-workers to remind me if

I slipped up and said the words that I used to say. We didn't correct each other in front of patients, of course, but we really meant business.

## In order for the words to get the right response, staff members must change the words they use.

As you begin to memorize and employ the words that work, you can measure yourself by the patient's response or reaction. When you get off the phone or a patient is standing in front you, ask yourself if they reacted or responded. That should motivate any person who wants there to be a difference.

### WHY THE RIGHT WORDS

Once again, words *do* matter. The right words get results and the wrong ones don't. Even the smallest change will make a big difference. Just tweak your words and ask, "How do you feel?" instead of, "What do you think?" It may seem insignificant, however, it can significantly change the results. The right words make a difference because they ensure that everyone—staff members and patients—are on the same page. If everyone uses the same words and the same phrases, the outcome is predictable and everything works together. The right words are important in a variety of situations—not just phone calls. In my Total Team Training class, we discuss using the proper terms in other situations, such as resolving patient concerns, overcoming objections and much more.

## Once again, words *do* matter. The right words get results and the wrong ones don't.

As Albert Einstein indicated, the significant problems that we face are of our own making. We created the problem. It means that you are accountable for the way your patients react. With that responsibility, you will naturally want to use the right words. Measure the results and see what changes the right words will make in your practice. ■



Tawana Coleman has been a practice development trainer with the Dr. Dick Barnes Group for more than twenty years. She has worked with thousands of dental practices. The structure that she teaches has empowered dental practices across the country to dramatically increase production. For any questions, email Tawana at [rtcoleman@cox.net](mailto:rtcoleman@cox.net).

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### Made for TV (continued from page 32)

take shape. The temporary placement is really the first time patients are able to envision what their permanent smile will look like. For Samantha, it was a dramatic transformation. She cried a lot and thanked us profusely. Samantha said, "This is a new start for me. I haven't smiled in years." And that's the fun part for the dentist—seeing such a change in the lives of your patients.

With the work we finished on Samantha's mouth, we were able to tape the episode for *The Doctors* last fall (the show originally aired on September 23, 2015). It was great to be able to show Samantha's new smile and see how it gave her a new outlook on life.

As Samantha smiled, she had a beaming glow throughout the show and seemed genuinely happy with her new makeover.

Hopefully, from Samantha's example, others will learn what treatments are available through reconstructive dentistry. No matter how "bad" a smile is, it's never too late, and it isn't always as hopeless as you might think. Often, the future can be bright—just like it was for Samantha.

**The fun part for the dentist is seeing such a change in the lives of your patients.**

For more information about *The Doctors*, please visit [www.thedoctorstv.com](http://www.thedoctorstv.com). ■



Dr. Joseph G. Willardsen graduated from Loma Linda University School of Dentistry in California. He continued his cosmetic dental training and became a full mouth graduate at the prestigious Las Vegas Institute, Arrowhead Dental Laboratory and Occlusion Connections™. In addition, Dr. Willardsen has been trained and certified as a biomimetic instructor through the Alleman-Deliperi Centers for Biomimetic Dentistry. Dr. Willardsen has been a key opinion leader for Dentsply, Kuraray, Midwest Dental®, Henry Schein, and E4D Technologies, as well as many others. As a result of Dr. Willardsen's training and outstanding results, he has been asked to be the invited dentist on numerous television, news, and talk shows, including NBC's *The Doctors*, Fox News, CBS News, ABC News, Huffington Post Live, VH1, and many others. His natural talent and ability to create beautiful smiles have made him popular with professional athletes, television hosts, broadcasters, models, and beauty pageant winners, as well as many other aesthetic-driven patients.



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