Teaming Up to Live the BISCO Dream
Science-based solutions work in tandem to deliver predictable outcomes in everyday restorative procedures and beyond

No matter their background or level of experience, every clinician has one thing in common—the desire to achieve predictable results. And considering the unpredictable nature of the job, with changing schedules, emergency appointments, and handling multiple procedures at once, clinicians need workhorse products that band together to achieve great results, time after time.

BISCO knows a thing or two about creating practice workhorses. The company is committed to solving clinical challenges through extensive research and product chemistry that ensure their team of restorative solutions—products ranging from cements and adhesives to etchants and core buildups—not only work well, but perform well together.

“As a practice owner, I love BISCO products because they provide a great value without having to keep a giant inventory of products,” said Dr. Alan J. Acierno of Schaumburg, IL. “My dental assistants love the products, as well, because they’re easy to use and they all work together.” Some of BISCO’s most well-known offerings, in addition to being members of the Dream Team, are Dental Product Shopper Best Products, as they’ve been evaluated by teams of clinicians for their durability, simplicity, effectiveness, and more. These products are highlighted in “Evaluation Snapshots” on the pages ahead.

The BISCO Dream Team
The name “Dream Team” might conjure images of the 1992 U.S. men’s basketball Olympic team. But the concept of top-notch players working together toward a winning
result is also true for another Dream Team—BISCO’s. This reliable group of restorative solutions that includes primer, adhesive, liner, and cement guides clinicians through any clinical curveball with easy-to-use products that require fewer steps and materials.

“At BISCO, we understand clinicians’ pain points, and we wanted to help them by creating a team of products that are very effective, universally compatible, easy to use, and worry-free,” noted Dr. Liang Chen, BISCO’s Director of R&D and Chief Scientist. “With that in mind, it has always been our goal to create a Dream Team of dental products.”

Dental materials are evolving quickly, and as a result the industry has become flooded with countless materials for use in procedures that require bonding, composites, core buildup, or cementation. But as Dr. Chen points out, these products aren’t always compatible with each other, even if they’re made by the same company. That, in conjunction with the fact that clinicians are often extremely busy, led to the development of the BISCO Dream Team.

“It is impossible for clinicians to learn all the tricks when working with so many different products,” Dr. Chen shared, adding that BISCO tries to combat this challenge by creating products that are less technique sensitive.

The Starting Lineup
Here’s a look at 4 key players on BISCO’s Dream Team, and what your peers have to say about using them to overcome their daily challenges and achieve the best possible outcomes.

ALL-BOND UNIVERSAL

As a universal adhesive, ALL-BOND UNIVERSAL can be used with direct and indirect restorations, and is formulated to be compatible with light-, dual- and self-cured materials. The single-bottle adhesive requires no activator. Using MDP monomers that result in enhanced durability of the bond, it has a versatility that makes it an indispensable part of any dental practice.

“Every other bonding agent has at least one caveat. Some require an ‘activator’ when used in combination with dual-cured materials like a core buildup material or resin cement. Some must be used in conjunction with other products from the manufacturer. There is no fine print with ALL-BOND UNIVERSAL.”

Todd C. Snyder, DDS, FAACD

Unique Benefits
• Not moisture sensitive; can be used on a wet, dry, or moist tooth structure
• Impressive bond strength to all substrates
• Use with all direct and indirect restorations (<10 thickness µm)
• Ideal chemical balance for both total- and self-etch adhesion from 1 bottle
• Compatible with all resin cements (no additional activator required)
• Virtually no postoperative sensitivity

EVALUATION SNAPSHOT

A DAY IN THE BISCO LIFE
Scan the QR code for a glimpse at the BISCO Dream Team in action. Two partner clinicians share their “day in the life” using this suite of workhorse solutions.

BISCO

P2
technique sensitive, ALL-BOND UNIVERSAL can be used with all etch techniques and for all direct and indirect restorations.

“In an adhesion world that is often confusing, universal bonding agents provide bonding simplicity,” noted Jack D. Griffin Jr., DMD. “Because of its versatility, tolerance, and performance, ALL-BOND UNIVERSAL has become the go-to bonding system in our office.”

TheraCal LC®

The product of a clinical breakthrough in resin and filler technology, TheraCal LC makes direct and indirect pulp capping simple. A hydrophilic resin matrix allows for ion exchange between the pulpal complex and dentin structure—releasing calcium to the tooth to stimulate hydroxyapatite and secondary dentin bridge formation.1,2 It has an alkaline pH that encourages healing and apatite formation,1,3 and can be used as a pulpal protective liner/base under composites and amalgam.

“Clinically, I am able to attempt to restore teeth that otherwise would have been sent straight to the endodontist,” said Dr. Shalom Mehler. “I have never seen another product with the capabilities of TheraCal LC.”

TheraCem®

TheraCem also releases calcium and fluoride4 ions to the tooth, and has an alkaline pH after 30 minutes of polymerization.5 In addition to bonding to dentin, enamel, zirconia, metal, and composite, TheraCem contains the adhesion-promoting monomer MDP, which creates a strong bond without etching or priming.

Dr. George Reskakis recently used TheraCem on an implant case where very short teeth required long-term provisional crowns. “It performed like a champion, and the patient returned 4 months later without the provisional crowns being lost,” he shared. “I have had remarkably good results with BISCO products, starting with their original bonding agents, and I trust their research.”

Z-Prime™ Plus

The “Z” in Z-Prime Plus is a nod to zirconia, to which the primer enhances bond strengths, along with alumina and metal substrates. It’s compatible with light- and dual-cured resin luting cements and contains both MDP, a phosphate monomer, and BPDM, a carboxylate monomer. This unique...
combination gives the primer a synergistic effect that contributes to significantly higher bond strengths than any other surface primer on the market.

**Working In Unison**

Dr. Acierno started practicing dentistry with a simple goal in mind: To provide every type of patient with the comprehensive care they deserve. A typical day at the office will bring him a healthy mix of traditional restorative dentistry, root canals and extractions, esthetic procedures, and everything in between. But maintaining a busy practice that caters to a variety of needs calls for a reliable set of solutions that work well together, are simple to use, and promise predictable results.

“It doesn’t matter if you are the CEO of a company or a laborer—I believe every individual deserves great care,” Dr. Acierno shared. “For the past 18 years, I have used

**CASE SPOTLIGHT**

A patient who hadn’t seen a dentist in some time came in complaining of pain in the lower left quadrant. An exam revealed a fractured lingual cusp and decay on tooth No. 19. The tooth could be saved, but would require a root canal, post and buildup, and a crown.

After performing a root canal on the tooth, I prepped the canal for a fiber post. ALL-BOND UNIVERSAL was used to bond, and CORE-FLO DC was used for the buildup. The tooth was then prepped and an impression was taken. I know these materials will provide an excellent, long-lasting foundation for a crown for this patient for years to come, and when this patient returns in a couple of weeks for a zirconia crown, I will use ZirClean to clean the internal surface of the crown following try-in, and cement with TheraCem.

When you really break down this process and think of all the steps and materials needed, it is really remarkable how important it is that all these products work in unison. These products truly are the workhorses of my practice, and I use them on a daily basis.

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**TheraCem®**

A dual-cured, calcium- and fluoride-releasing, self-adhesive resin cement, TheraCem offers the clinician reliable and durable cementation of indirect restorations. TheraCem is indicated for luting crowns, bridges, inlays, onlays, and posts (prefabricated metal, nonmetal, or fiber posts). It delivers a strong bond to zirconia and most substrates with no priming or etching required. The highly opaque material is easy to identify on radiographs for quick and effective diagnosis. Another advantage is easy cleanup, as TheraCem is specially formulated to allow for quick and easy removal of the cement.

“One of the reasons we use TheraCem is because it’s simple to use. It is self-etching, allows for dual tack cure, and delivers an incredibly strong bond to nearly all substrates—from zirconia to metal to resin—in addition to all types of endodontic posts.”

*Sheri B. Doniger, DDS*

**Unique Benefits**

- Continuous calcium and fluoride release¹
- Transitions from acidic to alkaline pH in minutes²
- Specially formulated to allow for quick and easy cleanup
- A high degree of conversion ensures a higher physical strength
- Easy to identify on radiographs for quick and effective diagnosis
- Easy automix, dual-syringe provides a consistent mix for immediate delivery

**References:**

BISCO products and have been incredibly pleased with their ease of use and the results I have achieved.”

Dr. Acierno has the unique advantage of practicing mere minutes from BISCO’s headquarters. He says that a simple tour of the 91,000-square-foot facility—including an impressive 12,000-square-foot R&D laboratory—will illustrate just how seriously the company takes its research and quality control. While Dr. Acierno admits that he, like many of his peers, is not a chemistry expert, he understands the product chemistry that BISCO prides itself on is incredibly complex, and that the idea of how one product functions with another is key to achieving successful results.

“In order to be able to do multiple procedures at once, I need to know that my materials are all going to work with one another,” said Dr. Acierno. “Having a product line like BISCO’s that allows me to do multiple procedures in conjunction is important.”

Tackling Clinical Challenges
Solving clinical challenges is a benchmark of BISCO’s success and ultimately what fuels the company’s research and development of new products. According to Dr. Chen, if we were to peek inside the R&D department at BISCO, we’d find a multidisciplinary team of chemists, biologists, engineers, and clinical dentists who are working tirelessly every day to find solutions to dentists’ most common clinical problems.

A recent clinical success story comes from the more frequent use of zirconia, which has been on the rise as more clinicians discover that it leads to results that are more durable and esthetic than traditional restorative materials.

GOT TIME FOR A BISCO BITE?
Dr. Rolando Nuñez explains how bonding to zirconia can be simple and predictable in this 30-second clip.

EVALUATION SNAPSHOT

DUO-LINK UNIVERSAL™
Specially formulated for cementation of all indirect restorations, DUO-LINK UNIVERSAL is intended for use with adhesives designed for compatibility with all dental materials, including all BISCO adhesives. While the adhesive resin cement works with all dental materials, its optimal use is derived when coupled with BISCO’s ALL-BOND UNIVERSAL light-cured adhesive, Z-Prime Plus, and Porcelain Primer.

“You can use DUO-LINK UNIVERSAL with a variety of products, whether you want to cement to metal, composite, alumina, zirconia, or porcelain restorations. It also works with bridges, inlays, onlays, and CAD/CAM restorations.”

Byron Davis, DDS
But with its esthetic success comes a drawback—adequate bonding. “Ever since zirconia crowns were commercialized in the early 2000s, many clinicians have experienced debonding failure for short zirconia crowns or other less retentive zirconia restorations,” said Dr. Chen. After conducting numerous research studies on zirconia bonding, BISCO’s R&D team discovered that zirconia ceramic behaved differently than traditional glass ceramics and required a special bonding agent. The result was Z-Prime Plus, which BISCO launched in 2009 to help clinicians bond zirconia with restorations like short and full crowns and Maryland bridges. “Today, clinicians can even successfully bond zirconia veneers, thanks to Z-Prime Plus,” added Dr. Chen. After conducting numerous research studies on zirconia bonding, BISCO’s R&D team discovered that zirconia ceramic behaved differently than traditional glass ceramics and required a special bonding agent. The result was Z-Prime Plus, which BISCO launched in 2009 to help clinicians bond zirconia with restorations like short and full crowns and Maryland bridges. “Today, clinicians can even successfully bond zirconia veneers, thanks to Z-Prime Plus,” added Dr. Chen.

TheraCal LC is another prime example of chemistry solving a clinical problem. Resin-modified calcium hydroxide products have long presented a challenge when pulp-capping because they prevent the release of calcium and hydroxide ions. “It is well-known by dentists, both clinicians and researchers, that calcium ions—when released upon contact with the tooth structure—will have a positive effect in the recovery of the pulp and tooth,” said Dr. Rolando Nuñez, BISCO’s Manager of Clinical Affairs. So, the R&D team at BISCO spent 10 years developing a new liner/pulp-capping material that allows for ion release while offering precise placement, a command set, and durability over time. TheraCal LC introduced the use of a new resin and filler technology that features a hydrophilic matrix and allows for the high release of calcium and hydroxide ions. “This filler technology has opened a new door for product development,” said Dr. Nuñez. “Now, it has become possible to develop materials that contain products like calcium and fluoride, which can be released via an ion exchange.” Using this research, BISCO was able to develop a new generation of self-adhesive resin cements that, in addition to bonding to dentin, enamel, zirconia, metal, and composite, also release calcium and fluoride to the tooth. “Whether they are intended to be used as pulp-capping agents, liners, bases, or cements, these new materials will have an impact on the clinical
approach of restorative dentistry and our patients,” noted Dr. Nuñez. “The age of ‘drill and fill’ is over.”

BISCO has also tackled the search for an ideal core material that offers post cementation, traditional core rehabilitation, and low-shrink dentin replacement. Inspired by dentists, CORE-FLO DC uses the latest in resin technology and dual-cure chemistry to allow for extended working times, quick light-cure setting times, and polymerization confidence when working in areas of post canals, deep preparations, and undercuts.

CORE-FLO DC Lite uses an optimal self-leveling viscosity that allows for excellent adaptation and gap-free margins when replacing natural dentition with a direct core build-up.

**Join the BISCO Revolution**

Fortunately, you don’t have to practice minutes from BISCO’s headquarters like Dr. Acierno to be part of the revolution. The success of BISCO’s Dream Team and DPS Best Products wouldn’t be possible without valuable feedback from clinicians on what is and isn’t working for them in their practices. This feedback, which BISCO extracts from surveys, meetings and trade shows, interviews, focus groups, and on-site visits, is funneled right back into developing problem-solving products.

“The information that we collect from clinicians is very important to us,” explained Dr. Chen. “We use it to set up product specifications and determine design input when we start a new product development project.”

BISCO has an ongoing commitment to develop products that lead to simple yet innovative solutions—and greater predictability—for clinicians practicing everyday dentistry. At the end of the day, it really is all about the chemistry, which is explained best by BISCO’s founder, Dr. Suh, himself: “We need to make every effort to educate the new dentist as to why the chemistry is so important, and that we at BISCO have significant expertise in this area.”

**References**


**EVALUATION SNAPSHOT**

**CORE-FLO™ DC LITE**

A dual-cured, fluoride-containing core material dispensed with an auto-mix dual-syringe, CORE-FLO DC Lite’s optimal self-leveling viscosity allows for excellent adaptation—resulting in gap-free margins when replacing natural dentition with a direct core build-up. In addition, the clinician can cement the post and build up the core. CORE-FLO DC Lite is available in Natural/A1 and Opaque White shades. The working time is 1 minute and the setting time is 7 minutes at room temperature.

“‘This lower-viscosity version of the original CORE-FLO DC extrudes easily and flows so nicely that I can bond in a post and do the build-up with it, ultimately saving chair time. CORE-FLO DC Lite’s self-leveling viscosity allows it to adapt well, eliminating the risk of marginal gaps. This is so important when replacing dentin with a core build-up.”

*Ron Kaminer, DDS*
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Unique Benefits

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  - Working Time: Minimum 45 seconds at 35°C
  - Setting Time: Maximum 5 minutes at 35°C
  - Complete in 1 office visit
- **Calcium Release**
  - Unique hydrophilic matrix facilitates calcium release
- **Alkaline pH**
  - pH of 11.5 at 7 days
- **Radiopaque**
  - Easy identification and differentiation from recurrent decay and other restorative materials
- **Easy Syringe Application**
  - No mixing by hand
- **Dual-Cured**
  - One-layer confidence
- **Moisture Tolerant**
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