Crystal® Ultra: a new hybrid nano-ceramic ideal for implant cases

Creative Dental offers two new flavors of implant restorations

The employees put a sign on Scott Atkin’s door, “mad scientist at work.” Atkin refers to his research lab as a sort-of test kitchen for every machine, material, or process ever conceived for dentistry.

As CEO of Creative Dental Laboratory, Atkin has been pushing dental technology into new frontiers for over 35 years. Creative was an early adopter of CAD/CAM, among the first to mill Zirconia copings; and in 2009, Atkin was the very first person ever to mill full contour Zirconia crowns using CAD/CAM. And, most importantly, Creative shared their technologies with other labs by co-founding Dental Laboratory Milling Supplies (DLMS) in 2007 to distribute advanced dental CAD/CAM supplies worldwide. Today, according to independent market research, DLMS’ Crystal® Zirconia is the number one selling Zirconia offered by the largest U.S. labs, providing a unique combination of unparalleled strength, beauty, and translucency.

FDA approves Crystal® Ultra, a new hybrid nano-ceramic

Recently, the FDA approved Atkin’s newest material, Crystal® Ultra, which is a hybrid nano-ceramic that actually “bends and flexes” in the mouth. With more than a million restorations seated worldwide and dozens of labs participating in U.S. trials, Crystal® Ultra has been one of the most anticipated dental science advances in the past decade.

At a conference recently, Atkin held up a thin bar of Crystal® Ultra and bent it. “There is no other ceramic on Earth that can do this,” he said. “Crystal® Ultra flexes in the mouth as the patient chews, absorbing shock, making it the only dental material with mechanical properties similar to human dentin.”

Implant dentistry is the greatest beneficiary

Crystal® Ultra was originally engineered for minimally invasive and cosmetic dentistry because of its opalescent chameleon-like aesthetic qualities, absolutely disappearing in the mouth as an inlay, onlay, or veneer. But its greatest utilization today is in implant dentistry. After implants are placed, there is no periodontal ligament that surrounds the roots to absorb shock and give the patients nerve feedback when they bite. That’s why older ceramic implant restorations tend to crack or break under pressure after just a few years in the mouth, and it is why some are concerned that Zirconia might be less-than-forgiving if supported by only four implants. With Crystal® Ultra, the material takes the abuse and doesn’t pass the impact to the bone.

No more bars — the Goldilocks effect

In the past, most full arch hybrid restorations were made of acrylic denture materials supported by a titanium bar, commonly called an All-on-4™ when done with four implants. Atkin offers, “That is like reinforcing gummy bears with a toothpick, and so we tend to see up to 90% repair or failure rates within 5 years of placement.” Most denture techs are used to repairing and replacing acrylic dentures, but patients who spend tens of thousands of dollars on a permanent solution are expecting — a permanent solution. For several years, Creative has been offering highly esthetic full arch Zirconia restorations as a permanent alternative, but some dentists and patients complain that Zirconia feels too hard, with a clacky sound as you bite down and chew. Since acrylic is too soft, Atkin had a Goldilocks’ moment when he started making monolithic full arch restorations out of Ultra. “Not only are they beautiful,” offered Atkin, “but they feel great in the mouth; the closest material we have to the feel of natural teeth; the most pleasant bite experience a patient will ever have; and because they are nonporous and super-stain resistant, they stay clean”.

The science of flex

The magic sauce behind Crystal® Ultra is a perfect 70/30 blend of silanated glass and advanced polymers. The 30% polymer matrix gives the material its elasticity, and silanizing causes the ceramic to bond chemically to the polymers giving the material its strength. In the past 2 years, others have also developed ceramic hybrids, such as 3M Ultimate, and Vita Enamic®, but these other hybrids can’t be used for bridges or full arches.

Ultra overtaking Zirconia in 2015

Atkin says that today about half of his full arch restorations are made of Crystal® Zirconia and half are Ultra-based, and to make the decision to test Ultra ultra-simple, he offers both at the same $2,495 all-inclusive price. “In 2015, I expect Ultra to tip the scale,” indicated Atkin, “because patients absolutely love how it looks and feels.”

As a result of both of these materials, Atkin believes that titanium bar-supported “gummy bear teeth” are a thing of the past. He offers to personally create a test Ultra restoration, either a single or bridge or full arch, for every new implant dentist who inquires, explaining the features and benefits and taking the dentist through the simple process step-by-step. To learn more, call Scott Atkin at 480-948-0456, or visit www.CreativeDentalAZ.com or www.CrystalUltra.com.

With Crystal® Ultra and other modern advances in placing implants, Atkin believes that many more dentists will be entering the lucrative implant dentistry field in coming years, and he wants to be there to support them with advanced materials and advanced techniques.

About Creative Dental Laboratory

Creative Dental Laboratory, Inc. was founded in Scottsdale, Arizona, in 1980 by Scott Atkin, who received his degree in dentistry from the Royal Dental Hospital in London before going on to a master’s program where he became a Registered Master Dental Technician. In his lab in Arizona, Atkin invented CAD/CAM-based full contour Zirconia and 3D transition shading, and after significant research on translucency, he created Sintering-Ovens.com to offer revolutionary high-speed, high-temp ovens that will sinter Zirconia in short cycles while achieving maximum translucency, strength, and luster.