Robert Lowe, DDS, discusses recent trends in aesthetics.

Q: What is aesthetics in dentistry?
A: Aesthetics can be defined as a branch of philosophy dealing with the nature of art, beauty, and taste, with the creation and appreciation of beauty. For many years, aesthetics in dentistry dealt solely with the shape and form of restorative materials, recreating nature’s blueprint of the posterior occlusal surfaces in dental restorations. The evolution of porcelain bonded to metal substructures gave the dentist a full-coverage restoration that could further that aesthetic value by mimicking the color of natural teeth. Partial coverage restorations still reverted back to the “old metal standards.” This choreography of the cuspal ballet has been termed the aesthetics of occlusion by Dr. Harold M. Shavell. In the mid-1980s, dental aesthetics took a quantum leap with the development of light-cured, microfilled direct composite restorative materials and adhesive chemistries that gave us the ability to bond tooth-colored restorative materials to enamel and dentin. Today, both direct and indirect aesthetic dental materials have advanced to a degree that the dentist can place beautiful dental tooth replacements that have the aesthetic value of natural teeth.

Q: How has adhesive and materials technologies helped advance the level of aesthetics in dentistry?
A: Predictable bonding of restorative materials to tooth structure continues to improve and also be a controversial subject. It is universally agreed between researchers and clinicians that the bond to enamel is much stronger and more predictable than the bond to dentin. How much bond strength do we really need for clinical success? Does the bond itself degrade with time? Most clinicians agree between researchers and clinicians that the bond to enamel is much stronger and more predictable than the bond to dentin. Partial coverage restorations still reverted back to the “old metal standards.” This choreography of the cuspal ballet has been termed the aesthetics of occlusion by Dr. Harold M. Shavell. In the mid-1980s, dental aesthetics took a quantum leap with the development of light-cured, microfilled direct composite restorative materials and adhesive chemistries that gave us the ability to bond tooth-colored restorative materials to enamel and dentin. Today, both direct and indirect aesthetic dental materials have advanced to a degree that the dentist can place beautiful dental tooth replacements that have the aesthetic value of natural teeth.

Q: How does today’s dental patient view dental aesthetics?
A: Because of the advances in dental aesthetics, combined with the Internet that is available to everyone, the average dental patient’s expectations have surely risen. Tempering those expectations to be realistic for every clinical aesthetic concern is now a major challenge for all dentists. The media is more of an influence on patients’ view of dental aesthetics than ever before. Digital photography and computer imaging has forced us all to step up our game because patients no longer accept results that 20 years ago were considered state of the art. Dental aesthetics is truly a double-edged sword. Some days I long for the past when the only color choices were silver and gold, because they always matched! On the other hand, when patients remark, “I can’t even tell which tooth was restored,” it’s a good day!

Q: What is the role of aesthetics in the other disciplines of dentistry?
A: It is important to realize that dental aesthetics is much more than just tooth color. The aesthetics of the gingival tissues, ie, the height of the tissue over the respective teeth, the position of the gingival zenith, overall symmetry, and balance of the pink and the white play an important role in the aesthetics of the smile. Hence, an interdisciplinary approach to dental aesthetics is very important to maximize the total aesthetic result of a case. Periodontal plastic surgery, dental implants, connective tissue grafting, orthodontics, and orthognathic surgery are building blocks for total facial aesthetics. Botox and dermal fillers are also tools for improvement of facial aesthetics that are starting to come under the prevue of the dentist. Today, we need to think about more than just the teeth; the bigger picture is not just dental aesthetics, but facial aesthetics. As Dr. Irwin Smigel, the father of modern dental aesthetics would ask, who owns the face? The answer is, dentists do!

Q: What is the future of aesthetics in dentistry?
A: As our world becomes more digital, so have our dental offices. Technologies such as digital impressions and CAD/CAM milling, both lab and chairside are changing the way we deliver aesthetic dental restorations to our patients. High-level dental aesthetics, in the opinion of many clinicians, still rests in the hands of the ceramist. As the stock materials for CAM/CAM improve in aesthetic quality, these technologies will become more mainstream. A few of us realize that one totally undiscovered aesthetic dental medium is indirect composite. In the hands of an artistic lab technician, the aesthetics of these restorations can and do rival their ceramic counterparts. Since the material is 100% converted monomer to polymer chains (the best direct composites convert only up to approximately 70%), indirect composites are more dense, stronger, and maintain a surface luster much better than their direct composite counterparts. Some of the clinical advantages are that they are easier to place, with less adjustment. This is because porcelain shrinks when baked and ceramic restorations must be overbuilt to compensate for this. Indirect composites have minimal shrinkage when light-cured and do not shrink further when processed under heat and pressure. This makes delivery in many cases much easier than with ceramics. With the economy the way it has been the past few years, indirect composite can be a less costly alternative to ceramic for some patients, yet still yields a beautiful aesthetic result.

Dr. Lowe graduated magna cum laude from Loyola University School of Dentistry in 1982. Since January of 2000, he has been in private practice in Charlotte, NC. He lectures internationally, publishes on aesthetic and restorative dentistry, and is a clinical evaluator of materials and products. He received Fellowships in the AAD, ICO, ADA, and AGD, and received the 2004 Gordon Christensen Outstanding Lecturers’ Award. In 2005, he was awarded Diplomate status on the American Board of Aesthetic Dentistry. He can be reached at (704) 364-4711 or at boblowedds@aol.com.
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