

Beyond the Bench

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May Topic: Production Ceramics and Profitability

Just like the cornerstone of dentistry remains the tried-and-true porcelain-fused-to-metal (PFM) restoration, so too are production ceramics the mainstay of busy dental laboratories for what we refer to as “the average case.” You know what I mean: a posterior PFM for a tooth between #12 and #15, usually a single unit but sometimes a three-unit bridge that’s prescribed in shade A2. OK, I’ll admit that *not all* average cases fit into that mould, but you get the idea.

The ceramics available to meet the needs for production restorations have evolved, and we can quickly, efficiently and predictably deliver a decent-looking PFM. In fact, a new leucite metal-ceramic has been introduced (IPS InLine™, Ivoclar Vivadent, Amherst, New York) that allows us to fabricate PFM restorations extremely easily, with consistent shade reproduction and only one or two main firings. From my perspective, this type of production ceramic represents a less expensive, more esthetic alternative that can be used for our everyday production needs.

The Earning Potential of Production Ceramics

Higher-end metal-ceramics have typically been used for more complex PFM cases, such as those for anterior cases requiring super high-end, detailed esthetics—like the use of four or five incisals, a couple of deep dentins, an interproximal dentin or an opacious dentin. Production metal-ceramics—or what we use for the average cases I described earlier—usually involve only one or two bakes and a glaze, so restorations move quickly through the laboratory.

This is important, because there are many laboratories at which the technicians are paid by the piece. So, it stands to reason that the faster they finish restorations, the more money they'll make. If technicians are using a higher-end ceramic that requires a three or four powder process, it would take them 20% to 30% longer to finish a restoration and, therefore, cut into their earnings. Specifically, for higher-end ceramics that must be built-up and baked in increments, it could take you at least an extra 45 minutes to finish a bridge than it would with a production ceramic.

However, if you can use a newer metal-ceramic that requires only a simple one-bake and glaze technique for most single units, or a two-bake and glaze technique for bridge restorations, you can achieve esthetics that resemble those of a higher-end ceramic. If the material has an advantageous composition, it will build easily and readily be used with standard layering techniques, making it user-friendly. What's more, being able to match shades right out of the bottle helps ensure esthetic predictability.

The point I'm making here is that for a laboratory that's paying its technicians by the piece—or if we're talking about a small laboratory where one person is doing everything alone and cannot afford to spend the time doing three or four extra bakes—then selecting a production ceramic that facilitates ease of use in all aspects of fabrication is ideal. You'll achieve esthetic results that are really close to looking like those of a more expensive ceramic; you'll do it without spending the money on the more expensive porcelains; and, more importantly, you'll do it without spending the time associated with more complicated build-up techniques to achieve a similarly good-looking PFM.

Hitting the Competition

A production laboratory's biggest threat is competition from off-shore facilities. To keep overseas laboratories from taking your clients, you have to turn out a quality product that looks and functions fine the first time. But, obviously, you also have to be price competitive.

The average production laboratory can charge anywhere from \$35 to perhaps a high of \$95 per unit. To justify this charge, they need to deliver a restoration that the doctor feels is superior, even while working under price constraints. Remember, they're charging \$95, so their product has to be better than the overseas laboratories that are charging maybe only \$40 per unit.

You want to use an inexpensive production ceramic, but you also want your restorations to look like a million bucks. So, you've got to be selective about materials. There are many inexpensive production ceramics out there, and you can tell that they're lower-end by the visible pits, voids and black specks in the final restorations. That's not what your doctors want.

I've found that the recently introduced InLine production ceramic offers an opportunity to produce a fast restoration for those typical posterior PFM cases, and to do so with esthetics that are better than any other inexpensive production ceramic material. In fact, right out of the bottle one powder can be used to achieve the look of a three or four bake restoration.

In terms of satisfying doctor expectations—and adding greater value to the services and restorations you deliver—nothing beats getting it right the first time. For example, let's say a doctor wants an A2 restoration. If you can take the A2 porcelain out of the bottle, build the restoration up in one bake, nail the shade and have it look better

than you could with another production ceramic, then you've got a doctor who's happy. Why? Because he doesn't have to send that restoration back for re-shading and risk losing an estimated \$450 of his own production time by spending 45 minutes trying in a restoration that didn't look right the first time.

Conclusion

In short, when the value of the laboratory's production increases and there's a reduction in esthetic remakes, you could realize at least a .50¢ to \$2.00 per unit savings in labor. What's more, because some of the recently introduced production ceramics can be used with reduced Pd noble alloys and reduced Au high noble alloys, laboratories may be able to save an additional .50¢ to .75¢ per unit.

When you consider production ceramics, remember that your goal is to work faster and produce esthetic results with a simpler system. If you can use one bottle instead of multiple powders, you'll get the restoration built, baked and glazed faster—which will translate into increased productivity and profitability.