A Heightened Sense of Awareness... The Road To Meeting High Patient Expectations With Porcelain Veneers

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ABSTRACT

Many patients today seem to have an increased sense of awareness when it comes to smile cosmetics. Failure to plan correctly while understanding patient desires can lead to unhappy patients and subsequently a less than happy staff. When patients can see color and shape in the mock-up and temporaries, unrealistic expectations can be tempered. It is critical to involved the patient in these important parts of treatment and then communicate what is accepted to the laboratory. Consistency in all phases of treatment is key to patient happiness.

We've all had it happen.... We did some cosmetic work that we thought was terrific only to have the patient say "I don't like it". Our heart sinks. It's hard not to get defensive...then angry. What can we do to decrease the chances of this happening?

It is said that success is where preparation meets opportunity. In our world, the opportunity is a patient wanting our treatment; the success comes with our ability to meld the patient's desires with biologic principles. With the heightened sense of cosmetic awareness that many of our patients have today, it is critical we make diligent steps to understand patient wants before final restorations are made. We must then be effective in communicating these wants to the lab. The mock-up and temporization phases can be critical in giving us feedback and to temper un-realistic expectations.[1]

Porcelain veneers have been placed for over 20 years meeting the esthetic desires of most patients.[2,3] However, in this time of heightened cosmetic awareness, even our best attempt can fall short if a patient has expectations we can't meet. Patient satisfaction can only be accomplished with the union of proper restorative materials, adequate tooth preparation, biologically acceptable soft-tissue treatment, and accurate communication with the patient and the lab.[4,5] The result will be a maximum achievement of both stable esthetics and contentment.[6]

The following case will serve as an example a protocol required to help meet these high expectations. Stressed is the importance of patient feedback, using it to choose color and shape of the transitional restorations, and to provide patient feelings to the technician.

THE FIRST STEP IN PATIENT APPROVAL THE PHOTOGRAPHIC CONSULTATION

Photographic review and analysis can be as critical to successful case planning as is radiographs or study models. During the treatment planning appointment, a full series of images is routinely taken by many offices for case documentation, liability, and marketing reasons. Often overlooked is how important these images are in planning a case, explaining treatment to the patient, and in tempering patient expectations.

When looking at a gallery, often the whitest youngest smiles are chosen by the new cosmetic patient as the smile they would like to have. Sometimes you have to help them "get real". We try to temper expectations by putting their pre-op photos up and point out factors that may limit their outcome. We emphasize improvement, not perfection.

In this case, a female wanted whiter teeth, closure of a diastema, replacement of a missing tooth (#4), "longer" teeth, and to show less gum tissue when she smiled. (Fig 1) Her diastema was about 2mm, she had un-even tooth coloration, and a slight gummy smile. (Fig 2). The patient has reviewed the office portfolio on the website and chose a case that was most appealing to her. That case is marked in the chart, the first step in patient acceptance.

A complete series of photos was taken with a digital SLR camera (Nikon D300, Nikon USA) and reviewed with the patient in our consultation room. The patients desires are tempered with differences pointed out between her teeth and the cases she liked most in the portfolio. She, as with many patients, did not see the need to include the bicuspids in the treatment plan un-

FIGURE 1—Full face image showing less than ideal smile.

FIGURE 2—Her major complaints were the color, spacing, and gum tissue showing during a full smile.

FIGURE 3—She was missing tooth #5 and a bridge was planned.

FIGURE 4—All pre-op images were reviewed with the patient along with the office smile gallery. She chose a case that she liked the most and the color, shape and texture were noted.

FIGURE 5—The pre-operative shade was A3.5 with areas of white. Home bleaching on the lower gave a shade of A1.

FIGURE 6—A full series of images is taken on each case. AACD images are always captured along with full head and occlusion images.

THE ROAD TO MEETING PATIENT EXPECTATIONS

1. The photographic consultation
- -Review cases in gallery or portfolio
- -Write in chart what colors and characteristic patient likes
- -Temper expectations, point out differences from patient photos

2. The mock up
- -Place a direct composite mock up before anesthesia
- -Use shade patient wants from portfolio or shade guide
- -Check phonetics and esthetics. Adjust as needed.
- -Photograph, impression for temps
- -Patient signs shade acceptance in chart or form

3. The transitionals (temps)
- -Use a matrix from mock up, use shade already approved
- -Have patient return 3-5 days after preps to gather feedback
- -Adjust as needed, have patient sign chart or form
- -Photograph, impression, written feedback…send to lab

til seeing the side smile photos. (Fig 3-4) She had been bleaching the lower teeth for several weeks and wanted a final maxillary tooth color slightly lighter than her lowers. (Fig 5) We briefly explain basic principles of tooth proportion, central dominance, and a height to width ratio.[7]

Consistency with photographic images is key. The Academy of Cosmetic Dentistry (AACD) series is a standard in cosmetic photography but lacks several important images such as a full head portrait and occlusion images. (Fig 6) Choose a series that meets you're the needs of your practice and be diligent enough to do that series on every cosmetic or complex case in your office. There is never a second chance to get pre-op images.

FIGURE 7—The shade she chose, B-0, was used for the direct composite mock-up which was done free-handed and before anesthesia. The patient was allowed to stand up, look in the mirror, and give feedback on the color.

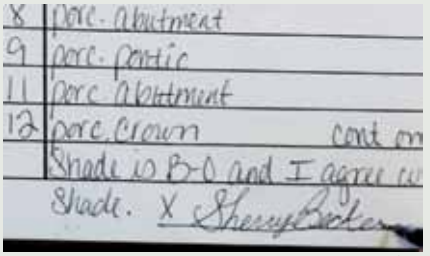

FIGURE 8—The patient signs the chart for shade approval. This is no certainty that they will approve the final restorations but helps them understand at this point how serious we are about color.

FIGURE 10—A poly-vinyl impression was then taken to help in temporary creation.

FIGURE 9—Another way to make this point is for them to sign a form. We use these for all cosmetic cases, dentures, partials, and any time anterior teeth are involved. In this case, she wanted to make the restorations darker than the temporaries.

FIGURE 11—After anesthesia, pockets were probed and bone sounded. A diode laser was then used to re-contour tissue. The right incisors are done first, evaluated, and then the remaining areas completed.

FIGURE 12—Veneer preparation is conservative and an attempt is made to stay in enamel when possible. A finish diamond is used for the majority of preparation.

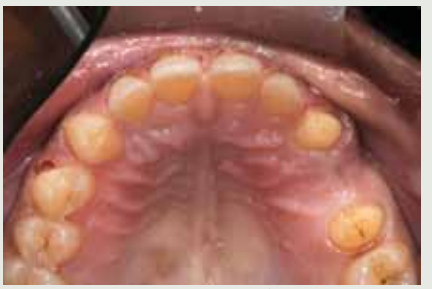

FIGURE 13—Preparation for a zirconia framework bridge is done to replace the missing tooth. All preps are smooth with no internal sharp edges or corners.

THE SECOND STEP IN PATIENT APPROVAL—THE DIRECT MOCK UP

Perhaps the most overlooked aspect to happy patients and satisfied doctors is the "esthetic preview". This can be done as a pre-treatment mock up or with the transitional (temps) restorations. The goal is to check esthetics, phonetics, and to give the patient a basic idea of shape and shade of the final restorations before anesthesia is given and to steer the patient into the reality of what we can do for them.

At the preparation appointment a direct composite mock is done before anesthesia. It is the first chance to have the patient experience what they think they want. It is stressed to the patient that the material is merely an approximation of the final shape and size but that it is important that basic color and incisal edge position be accepted, in this case B-0.

A direct mock up in the shade the patient chose was done freehanded with composite with a height to width ratio of about 75% an impression done for lab consultation and temporization.[8,9] With the patient sitting up in the chair, the midline and cant are checked (Fig 7).

Once modifications are made, the patient signs the chart or a "shade form" saying they accept the basic color and shape. (Fig 8-9) This is step two of patient acceptance. This mock up will form the basis of temporary fabrication and a poly-vinyl impression was taken to serve as a matrix for these transitional restorations. A stent made from a lab wax up can be used to

FIGURE 14—Retraction paste is placed, impressions taken, and photos of the preps captured for the lab.

PHOTOGRAPHIC USES DURING A COSMETIC CASE

1. Case documentation
2. Patient education and to increase treatment awareness
3. Case planning
4. Soft and hard tissue preparation blueprint
5. Lab communication
6. Marketing
7. Creation of office portfolio

FIGURE 15—The bite registration with alignment sticks, cotton swab handles, was done and a photo taken for the lab to verify alignment.

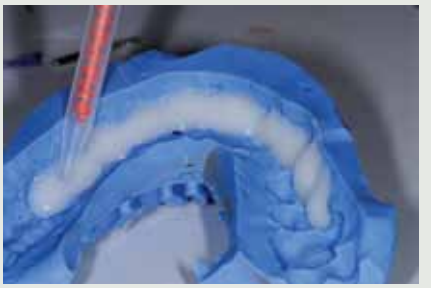

FIGURE 16—The matrix made from the mock-up was filled with a self cure temporary composite and placed on pre-bonded teeth.

FIGURE 17—Contouring was done with a finish diamond, occlusion checked, and sealed with a composite sealer.

place temporary composite on the teeth for a mock up as well.

TISSUE PREPARATION

At the preparation appointment, pre-op images were loaded onto the operatory computer for quick reference during preparation. This forms an invaluable guide to keep the clinician on task and organized as tissue changes are made. After measuring sulcus depths, probing to the bone, and marking tissues according to ideal photographic changes, an 810mm diode laser [Odyssey, Ivolcar Vivadent, Amherst, NY] was used on a relatively low wattage, 2.0, to sculpt the tissues. (Fig 11)[10,11]

Pressed ceramic with a cutback and moderate irregular translucency was requested for the veneers because of its strength, beauty, and fit.[12,13] Teeth were minimally prepared using a finishing diamond to provide between .7 and 1.0mm of space for pressed ceramics. (Fig 12) The goal was to keep the restorations on enamel whenever possible and to provide smooth preps with no sharp corners.[14] Teeth #4 and #6 were prepped for a zirconium framework bridge with overlying porcelain. (Fig 13)

A non-iron containing retraction putty [ExpaSyl, Kerr, Orange, CA] was injected along the gingival margins, allowed to sit for 5 minutes, and then rinsed well (Fig 14). Two impressions were taken of the prepared teeth with a polyvinyl impression material in a full arch tray and a polyvinyl bite registration was taken with midline and occlusal plane guide sticks. A photo was then taken to show the lab how my alignment guides compared to her eyes and face. (Fig 15)

THE THIRD STEP IN PATIENT APPROVAL—THE TEMPORARIES

A self curing automix composite [Luxatemp, DMG Zenith] was use to make temporaries in the made from the mock up. (Fig 16) The shade was the same as the mock-up and was trimmed and polished. (Fig 17) A composite sealer [BIS-Cover, BISCO] was used to smooth the surface, fill small voids, and to decrease finish time. The patient was re-appointed for 5 days to evaluate the temporaries.

At this appointment, the patient was asked about her experience with pain, bite, and esthetics. Some recontouring was done, and then new photos and impressions were made for the lab. (Fig 18) The key is to keep consistency between the mock-up and temporaries and then relay patient feedback during the process to the technician. (Fig 19) In this case, she felt the temps were slightly too light so we agreed upon a slightly darker shade, B1. (Fig 9)

The impressions, models, and bite registration were sent to the lab along with a CD of all photos taken before and during treatment.[15] (Fig 20)The images include the preparation shade with tabs next to the preps and photos of the mock up and temps. The ceramist can only create restorations proportional to the quality of work we give them. We cannot

FIGURE 18—The patient came in 5 days after the prep appointment and asked about functional, esthetic, and speech concerns. After minor adjustment, new photos and impressions were taken so the lab could see what had been accepted by the patient. She wanted a shade slightly darker than the temps and a form was signed.

FIGURE 19—The key is consistency between the mock-up and transitionals with patient feedback and lab communication.

FIGURE 20—All records including all pre-op, procedure photos, mock up and temporary photos will be sent to the lab.

FIGURE 21—After fit verification, the teeth were etched for 15 seconds after pumicing. Note that only the incisors are being placed first. Afterwards the remaining restorations will be placed on one side at a time.

FIGURE 22—After rinsing, a self cure bonding agent was applied and air thinned.

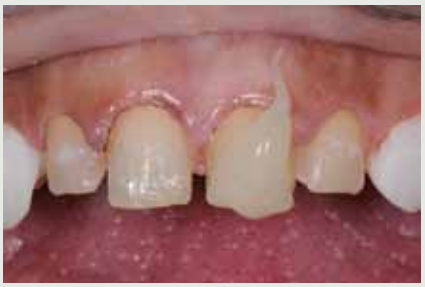

FIGURE 23—A translucent light cure luting material was applied directly to the teeth and the veneer applied.

expect work back from the lab better than what you give them. Allow an experienced technician the right to discuss things with you if preps, impressions, or materials requested would give a compromised result. The following check list should be done for every case sent:

Send to lab for each cosmetic case:

- Written description of case history, treatment, and expectations
- Impressions or models
  - Pre-op
  - Preps
  - Opposing
  - Mock-up or accepted temps
- Photos or digital images (CD, card, e-mail)
  - Pre-op
  - Prep shades
  - Bite alignment guide
  - Mock-up or accepted temps

RESTORATION PLACEMENT AND PATIENT EXPERIENCE

At the insertion appointment the provisionals were removed, the teeth cleaned with pumice, and restorations tried in. After verification of the fit, the veneers were cleaned in an ultrasonic bath with alocohol, re-silanated, and coated with an unfilled resin [Choice 2 Luting kit, BISCO, Shaumburg, IL]. The teeth were isolated, etched, and a dual cure bonding agent applied and air thinned [All Bond 3, BISCO] (Fig 21-22) A light cure luting agent was applied and the veneers placed. After spot curing with a 2mm diameter curing light for 5 seconds, the cement was cleaned up with brushed, floss, and a composite knife. (Fig 24)

The patient was re-appointed 1 week after luting when minor clean up was done. (Fig 25) She was extremely happy with the results. At 18 months, the tissues

FIGURE 24—The veneers were spot cured on the facial with a small diameter tip and clean up was done with microbrushes, scaler, composite knife, and guaze.

FIGURE 27—The key to any case is meeting the patients goals. Despite never doing a perfect case, a happy patient with tissue stability is the key to success.

FIGURE 25—The key to the case is patient approval. As long as they are involved at each step and communication with the lab is thorough, there are few surprises.

FIGURE 28—The bridge blended in well with the veneers and continuity in the smile is noted.

FIGURE 26—The natural appearance of the teeth is in harmony with the soft-tissue acceptance at 18 months.

FIGURE 29—Because of the photographic consult, the patient decided wisely on doing all of the teeth that showed. The result is pleasing.

healed well and the patient was well pleased. (Fig 26) Her smile was much improved and above all else she was pleased with our result. (Fig 27-29)

Obviously having the patient involved during the process helps with the overall patient satisfaction. By allowing the patient to first choose cases they like from a gallery, then having them approve the mock up and the temps, and finally asking them about their experience and feedback at each step helps to promote an accepting patient. Above all else, communicating these steps with the technician will help avoid those tough confrontations with patients who don't like our effort. **OH**

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