To get results that meet or exceed the demands of any aesthetic patient requires true teamwork and clear, effective communication between the patient, dental office, and dental laboratory. It is necessary to first find out what the patient’s true desires are and formulate a treatment plan that will meet those desires. We have a moral and ethical obligation to provide this service within the bounds of doing no harm and improving the patient’s health.

One can consider the dentist as the architect, the dental laboratory technician as the builder, and the patient as the client. But unlike a true architect and builder, the client usually only deals directly with the dentist and dental team. Consequently, any information passed to the laboratory technician has to go through the dental team, so clear and precise communication needs to happen in a timely way.

Since a great part of aesthetics is based on visual perception, a good way to start an aesthetic case is to show the patient what the results can look like at the start. Digital imaging or a mock-up (either from a diagnostic wax-up or from a direct intraoral mock-up) are two effective techniques to show the patient the probable results (Figures 1, 2, 3, 4, 5, and 6). The information from this process should be shared with the dental laboratory technician by sending the diagnostic wax-up, taking an impression of the mock-up in the mouth, particularly if modifications were made and photographs of the mock-up in place for both intra-oral and facial views. Facial photographs can also be given to the to the patient to show significant changes before and after the images are taken. Ultimately, the decision to proceed or not is based on an emotional response and is usually immediate and permanent.

When transferring information to the laboratory, include the details in addition to the global view. Supplying a lab slip with instructions like: tooth #7, porcelain crown, shade A-1 is not enough. Even though the human brain can interpolate using past experience as a reference, this approach will often leave out some of the most

Figure 1 Before. The patient was congenitally missing the maxillary lateral incisors. Figure 2 Mock-up. A well-designed diagnostic wax-up was used to create this mock-up. Figure 3 The case was completed using short-term straight wire orthodontics and conservative porcelain veneers.
“The dentist is responsible for determining how these terms fit a given patient, and the laboratory technician is responsible for how these terms fit a given dentist.”

Important details that are necessary for a successful outcome. Note the following example:

“Aoccdring to rseearch at Cmabrigde Unervtisy, it deosn’t mtttaer in waht ordr the ltters in a wrod are, the oly iprmoatnt tihng is taht the frist and lsat ltteer be at the rghit pclae.

The rset can be a total mses and you can still raed it wouthit porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.”

Patient desires aren’t words, they are emotions, so the dentist can’t expect the laboratory to fill in the blanks.

When sending an aesthetic case to the laboratory, at the very least, items to be included should be:

- A completed laboratory work authorization sheet with due dates (preferably scheduled with the laboratory prior to leaving the dental office), shades and color mapping, textural and shape expectations; an occlusal bite at the desired restorative position; a stick bite or face bow (to relate the horizontal plane of occlusion with the long axis of the face); pre-prep models, any diagnostic wax-ups, models or impressions of provisionals, models or impressions of any mock-ups; and, most important, exposed, focused, and composed photographs. In this particular instance there is no such thing as too much information (Figure 7).

To keep everything organized and not skip any steps, we suggest creating checklists similar to those that are common in the cockpit of an airplane. Every pilot knows that the most predictable and safest way to fly is to follow a checklist, because, while performing complex tasks, we can’t remember everything, every time. Basically, a checklist can be used in two ways. First, is a “to-do” checklist, meaning the checklist is read and the task is then completed. Second is a “done” checklist, meaning the tasks are done then the checklist is referenced to assure that everything was completed. The “done” checklist tends to be used when we become more familiar with recurring tasks. However, when using the “done” checklist approach there is a higher chance of missing a step due to not paying particularly close attention to the individual items.

Because we have developed a clear line of communication and have specific agreement about commonly used, but sometimes vague, terms that are used to describe expected outcomes in designing smiles, we get highly successful results. Examples of some of these terms are: “youthful,” “feminine,” “minimal, medium or heavy texture or incisal translucency.”

Figure 4 Before. Well aligned teeth with substantial wear, approximately 20% of the length had been lost. Figure 5 Mock-up from a diagnostic wax-up. Figure 6 Final smile with 10 maxillary no-preparation porcelain veneers.
Clinical Success

“...Any information passed to the laboratory technician has to go through the dental team, so clear and precise communication needs to happen in a timely way.”

responsible for determining how these terms fit a given patient, and the laboratory technician is responsible for how these terms fit a given dentist. Again, it is about clear communication. Familiarity develops over time, and even though we can’t read each other’s minds, we can expect certain outcomes. An example is color mapping (Figure 8): although the dentist’s sketch may be slightly abbreviated, the actual layering and artistry of the laboratory technician is complex.

This case exemplifies the excellent aesthetic results that effective communication and mutual collaboration can produce for our patients. A patient had two zirconium-based porcelain crowns on the maxillary central incisors and composite resins on the maxillary lateral incisors (Figure 9). The goals for the patient were discussed and a strong desire was to have the central incisors shaped more “squared” to make the teeth look “natural” (Figure 10). We were able to quantify the goals into a diagnostic wax-up and transfer the information to the laboratory. Digital photographs were freely traded between the patient, the dental office, and the laboratory via the Internet, making the distance between the dental office and the laboratory non-existent. After pressing the ceramic (Ivoclar e-Max), the patient was able to provide critical input by enhancing the digital photograph with Adobe Photoshop to shape the centrals more to his liking (Figures 11 and 12). In aesthetics, the patient is always right (Figures 13 and 14).

We should strive for perfection, inspire each other, demand the best, and constructively critique and appreciate what we have created together. That’s true teamwork.

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Figure 7 Examples of information included with each case. Figure 8 The right graphic shows a simplified sketch while the left graphic shows the actual and expected complexity of the artistry put into the layering of the porcelain restoration. Figure 9 A patient with zirconium based porcelain crowns on the central incisors and composite resin on the lateral incisors. Figure 10 Wax-up incorporating the desired shapes the patient had described. Figure 11 Photograph of the pressed and layered eMax ceramic crowns before modification by the patient. Figure 12 Altered image using Photoshop, done by the patient, to visually demonstrate his desired changes to the shape of the central incisors (squarer distal incisal corners). Figure 13 The final smile that resulted in clear communication and intimate collaboration between, the patient, the dental office and the dental laboratory. Figure 14 Life like restorations by design and true teamwork.