

# Shade Verification Protocol

## “Getting On the Same Wavelength”

### Terminology of color:

- 1) Value (brightness) - Refers to the brightness of a color related to a scale from white to black. High value is bright white, while low value is dark gray.
- 2) Hue (color) - Refers to the specific color (brown, yellow, gray or red)
- 3) Chroma (saturation) - The intensity of strength of a given color (hue)

### Three Vita-Lumin shade guides are recommended:

- 1) The first guide should have the tabs arranged according to brightness (value). The recommended order for your “value guide” is B-1, A-1, B-2, D-2, A-2, C-1, C-2, D-4, A-3, D-3, B-3, A-3.5, B-4, C-3, A-4 and C-4.
- 2) The second shade guide should be arranged by color (hue) groups. The order for your “hue guide” is: (reddish-brown) A-1, A-2, A-3, A-3.5, A-4 (Reddish-yellow) D-2, D-3, D-4 (gray) C-1, C-2, C-3, C-4 (Reddish-gray) B-1, B-2, B-3, B-4
- 3) The third guide should also be arranged in the same color (hue) groups of A, D, C and B. However, this guide should have the necks of the tabs removed. This “modified hue” guide eliminates the heavy extrinsic coloring that some tabs have at the cervical which can be an unwanted influence during your shade selection.

### Tips for shade selection:

- 1) Have the patient remove lipstick or bright make-up if any.
- 2) If patient is wearing bright-colored clothing, it is a good idea to drape the patient with our neutral-colored (gray) bib.
- 3) Make the shade selection at the beginning of the appointment before the tooth becomes dehydrated and your eyes become fatigued from the other procedures.
- 4) The canines are a good reference point in selecting a shade because they have the highest chroma (intensity) of the dominant hue (color) of the teeth.
- 5) First impressions are the most accurate in shade selection.
- 6) Make your final shade selection after comparing your shade selections with those of another staff member. This works to double check these very subjective measurements.
- 7) When making shade selections it is important not to view the comparison for more

than 7 seconds at a time to avoid fatiguing the cones of the retina. It is recommended to gaze at the neutral gray patient drape or neutral gray wall card. In fact, looking away at our wall card between each 7-second shade evaluation will reset the focus of your eyes which will also help to them.

8) Compare your shade selection under varying conditions such as with lip retraction versus lip down and when the patient moves their head in different directions or lighting angles.

9) Many doctors feel that selecting a shade of slightly lower value from the adjacent teeth help the porcelain “blend” nicely with the patient’s natural dentition.

### **Procedure:**

1) Always select the **value** reading first. This is the most important dimension in shade matching with ceramic restorations. By using your value guide (with the tabs arranged in brightness order) place the shade tabs in the same plane as the tooth you are trying to match. Start off by moving the shade guide across that plane until the right value is selected. If there is no difference seen between the tooth and the tab, the value reading will be matched.

2) Now that the value reading has been taken, use your hue guide (arranged in color group order) to select the **color** reading. Many people feel that if the patient’s teeth have a “warm shade” they are likely in the A and B ranges. Conversely, if the patient presents a “cool shade”, you should begin by starting with the C and D hues. Rapidly scan the shades and by the process of elimination determine which tab matches the closest. If you have selected two different tabs, use your modified hue guide (with no neck) to select the closest color match.

3) While holding the shade tab in the same plane as the natural teeth, evaluate their surface texture (roughness) and glaze (shine) as compared with that of the tab. Mark these findings on your Accu Shade Rx.

4) Once the left or right half of the tooth is prepared to a depth of 1-1.5 mm (your regular crown prep) evaluate its translucent or incisal layer. From the patient’s side, look across the prepared tooth. You will see a cross section of the dentin and the amount of translucent enamel. Note the depth of the translucent layer (enamel) and how far it runs down the tooth (from incisal to cervical) on the Accu Shade Rx.

5) You’ll want to take a dentin shade if you are doing an all ceramic restoration or want to “fine tune” the shade match with a PVC. Once the tooth is fully prepared, use your value and hue guides to select the shade of the dentin in the tooth’s body. Make this note on the Accu Shade Rx along with any unique color characterizations and final notes.

6) Explain to your patient (or better yet have your staff explain) that you are taking these steps to achieve the closest color “blend” with their natural teeth. Your patients will appreciate your thoroughness. This will also differentiate your practice from any others where they have had porcelain restorations done previously.

