

## **Pearls and Perils of Cosmetic Dentistry: The Unique Challenges of a Single Anterior Restoration**

Much has been written about value, hue and chroma as important factors in an ideal restoration. Less often we learn about the actual physical factors of the tooth's anatomy, which must also be considered when attempting to imitate nature with a restoration. Anatomical factors include:

- Buccal contour
  
- Emergence profile
  
- Surface anatomy
  
- Texture
  
- Silhouette
  
- Color variation
  - a- High Chroma (note the saturation)
  - b- Low Value (observe grayness)
  - c- High Chroma Fracture Lines
  - d- Translucency
  - e- Maverick Color
  - f- The halo effect of how light hits the tooth
  - g- Whitish Patches – “White Frosty Stuff”

## **Case Study Dealing with Subsurface Decalcification**

There is a solution to the problem of duplicating “white frosty stuff”.

In this case, the surface was roughened, then WFS, in the form of a white resin stain, was painted on the roughened surface. The WFS was then wiped off with dry gauze but the trick is that some of it remains in the tiny grooves creating the “natural” look. After curing, finish by applying a variety of stains to match adjacent teeth.

### **Time-tested Tips:**

- Remember to check the occlusal view – this may be the most important view as it allows you to see the buccal contour of the posterior and anterior teeth.
- When seating multiple-tooth cases, remove only one temporary to try in a single final restoration. This will allow evaluation of contour, shade, length, inclination, etc.
- Do not be afraid to open vertical dimension, even though there has been much debate about this. The primary reason many dentists are afraid to do this is because of the concern it will create joint problems, dysfunction or that the porcelain will fracture. If done properly, you can eliminate most of these problems; however, good training and understanding of joint function and occlusion are critical to success.
- Before beginning a preparation, especially in the case of a single anterior restoration, paint the adjacent natural tooth with unfilled resin, then light cure. This way you can assure the painted tooth will not desiccate and change color during prep. This allows for more accurate shade matching.

And here are a few secrets that will help you stay in reality

Don't get too filled with yourself; you may think you can do just about anything, but if you don't get the knowledge and training before implementing the procedure, even you can mess up.

Be creative, learn and grow, don't just stay inside the box and do what you've always done. The practice of dentistry is a double-edged sword: you will get cut, but every cut is an opportunity for learning.

Be bold, but take full responsibility for the outcome. If it doesn't go right the first time or two don't give up. You have to keep going and keep on learning.

In this profession, things can and do go wrong, in spite of your best efforts. Accept that "stuff happens" and don't beat yourself up about it.

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#### ACCREDITATION EXAMINATION CRITERIA

##### • **20. CASE SELECTION / DIAGNOSIS / TREATMENT PLANNING**

- 21. Is case selection appropriate to achieve an optimal result in all views?
- 22. Is the choice of technique and material appropriate for the case?
- 23. Has function been considered in the choice of treatment (e.g.. occlusal forces)?
- 24. Have all necessary clinical disciplines been incorporated to achieve an optimal result (orthodontics, periodontal plastic surgery, etc.)?

#### ACCREDITATION EXAMINATION CRITERIA

##### • **30. PHOTOGRAPHY AND RADIOGRAPHY**

- 31. Is the photography well done with proper exposure and composition?
- 32. Are all the required views shown according to the Accreditation Photography Guide?
- 33. Are x-rays appropriate to show marginal adaptation of all teeth required to be treated per the Accreditation protocol?
- 34. Is the photography free of excess moisture and debris?
- 35. Do the radiographs show problematic clinical issues (i.e. open, overhangs, pathology or other defects)?
- 36. Has digital photography protocol been followed?

#### ACCREDITATION EXAMINATION CRITERIA

##### • **40. ELEMENTS OF DENTAL ANATOMY**

- 41. Is the emergence profile natural?
- 42. Is the labial anatomy appropriate? Are there three planes for the labial contour of the central incisor?
- 43. Have line angles been properly developed?
- 44. Is the surface polish and texture appropriate?
- 45. In the occlusal view, is the incisal edge position appropriate and is there a definite incisal edge?
- 46. Is the height-to-width ratio of the restored tooth (teeth) appropriate?

#### ACCREDITATION EXAMINATION CRITERIA

##### • **50. ELEMENTS OF COLOR/SHADE/APPEARANCE**

- 51. Has underlying tooth color been properly managed to allow for an optimal cosmetic result?
- 52. Does the restoration have "show through" of tooth structure or the fracture line under the material?
- 53. Is the color (hue, value, chroma) selection appropriate/natural, not monochromatic?
- 54. Are effects of internal and surface color characterizations appropriate?
- 55. Is the degree of opacity realistic?
- 56. Is incisal translucency and halo effect appropriate?

#### ACCREDITATION EXAMINATION CRITERIA

##### • **60. PROSTHODONTIC ELEMENTS**

- 61. Is margin placement and design appropriate? Are the margins visible?
- 62. Is there evidence of cement or resin at the margins?
- 63. Was an appropriate pontic design selected and was it developed properly to ensure optimal tissue health and contour?
- 64. Is the interproximal contact or connector proper in length and position?
- 65. Is the choice of luting material appropriate?
- 66. Is there evidence of iatrogenic damage to adjacent, opposing or treated teeth?

### ACCREDITATION EXAMINATION CRITERIA

- **70. PERIODONTAL ELEMENTS**
- 71. Is the periodontal health optimal?
- 72. Is gingival architecture appropriate (in all views) and in harmony with smile design?
- 73. Should gingival recontouring, shaping, and/or ridge augmentation have been done?

### ACCREDITATION EXAMINATION CRITERIA

- **80. SMILE DESIGN ELEMENTS**
- 81. Are incisal edges in harmony with the smile line?
- 82. Is the midline appropriate?
- 83. Is the axial inclination appropriate?
- 84. Are the incisal embrasures proper? Is there a natural progressive increase in the incisal embrasure size from the central to cuspid?
- 85. Are the principles of proportion and central dominance appropriately used?
- 86. Is the cervical/incisal tooth length symmetrical from right to left?
- 87. Are contra-lateral teeth in harmony in terms of size, shape and position?
- 88. Is the buccal corridor properly developed?
- 89. Are the cervical embrasures proper? No dark triangles?

