

Dental Photography: A New Perspective

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INTRODUCTION

Other authors have described the importance of understanding the power of “visual learning”^{*} in dental communication (1) and have also described traditional guidelines for dental photographs as suggested by several dental organizations.⁽²⁾ These authors have also argued for extensive use of photographs in dental practice

Dentistry has traditionally followed the suggested standard guidelines of lighting, composition, magnification, orientation, retraction and mirror use. Dental photographs taken when using these guidelines give a clear visual record of the dental subject; however the photographs can become static clinical records in spite of their importance to the dentist. (3) (Illust 1)

Photographs used for communication are just modifications of the basic clinical record photographs. Our subject is still the same; teeth, oral and para-oral anatomy, we are just using more artistic photographic techniques. In general photography these photographic differences are described as “factual” and “artistic” photographs. (4) (Illus 2)

The primary difference between dental record photographs and presentation or communication dental photographs is that communication photographs are created specifically for the benefit of the person we want to receive our dental visual message.

COMMUNICATING IN DENTISTRY USING ART QUALITY PHOTOGRAPHY

When communicating dental information to patients, peers, laboratories, or in marketing or publishing, we have to ask the question, do my photos show the story I want to tell? Photography is visual story telling. To tell a clear story or show a clear visual of specific dental information, we have to understand the characteristics of a good photograph.

Describing what makes a photograph effective is difficult, but one of the best checklists I have found is by photographer Charlotte K Lowrie. Although Lowrie’s describes general photography, I have paraphrased her checklist for dental photography. (5)

WHAT ARE THE CHARACTERISTICS OF A GOOD DENTAL PHOTOGRAPH?

1. *Is there a clear center of interest?*

- When you look at the photograph, is the first thing you see what you want to show?
- Are there other things in the picture that distract from the center of interest?
- Does the quality of light or direction of light and depth of focus add or distract from what you want to show? (Illus 3, 4)

2. *Is the photograph composed well?*

- Is the picture cropped to show only what you want to show?
- Is the picture in proper alignment and perspective?

3. *Is the picture in focus and have proper exposure?*

- Is the dental subject of interest in crisp focus?
- Is the depth of focus adequate to clearly show the surrounding tissue?
- Is the exposure adequate to clearly see the subject?

4. *Does the picture tell the story you want to show?*

- What change could be made to show a stronger story?

5. *Does the lighting enhance the visual story you want to tell?*

- Is the intensity, direction and color of the light correct for your visual story?
- Does the lighting enhance your visual message?

6. *Is your photograph creative?*

- Will your photograph stimulate viewer interest in the subject of the photograph?
- Will the intended viewer be able to clearly see the dental story you want to show? (Illus 5)

It is important to take adequate dental photographic records. The uniform guidelines described by the AACD, Panky Institute and other groups are essential as part of basic dental records. However to communicate with both dental and non dental viewers, we have to present photographs that meet the artistic criteria of professional photography. The photographs we use in any

presentation compete with professional photographs seen in commercial advertising, glamour publications and web sites.

Whether we like it or not, the quality of our photographs can be seen as representing our quality as dental practitioners.

How do we as dental practitioners take professional quality photographs of dental subjects? One of the first things to remember in dental photography is that the eye of the photographer is more important than having the most elaborate camera equipment. The dental message we capture in our presentation photographs is what matters.

CAMERA EQUIPMENT IS IMPORTANT, HOWEVER

The best camera system is a system that is easy for you to use. If your camera system is cumbersome and not adjusted for quick use, you will not use it. You may want to use a point and shoot camera modified for dental use such as

the Canon G11 with a “PhotoMed close-up attachment kit*.” (Illus 6)

A more complicated, but higher quality image can be taken using one of the Single Lens Reflex (SLR) cameras with a 60mm or 100mm macro lens and an adjustable “macro” flash. An example of a quality SLR dental camera system is a Canon 50D with a Canon 100mm Macro lens, and a Canon MT24 EX Twin Flash with Stofen flash diffusers*. SLR camera systems are inherently more complex than point and shoot systems. (Illus 7)

All dental camera systems must be properly set for optimum quality dental images. White balance, (Illus 8) shutter speed, “f” stop, and picture style. Each of these settings affects the quality of the photograph. I suggest you purchase a dental camera system from a company which supplies the system adjusted for optimum dental use, and also gives you a “quick start” guide* (Illus 9) to quickly reset the camera to dental specifications when the camera

adjustments are deliberately or unintentionally changed. Artistic quality dental photographs can be made with both types of camera systems when used by an artistic photographer.

CAMERA ACCESSORIES WHICH COMMUNICATION DENTAL PHOTOGRAPHS

Five accessories are essential when taking Communication dental photographs.

1. Metal frame cheek retractors (Illus 10)

- a. To retract lips to expose intra-oral anatomy
- b. To retract lips when using mirrors
- c. Can be autoclaved

2. Combination Occlusal and Buccal Mirror*(Illus 11)

- a. For occlusal views (use buccal mirror as a handle)
- b. For quadrant occlusal views (use occlusal mirror as a handle)
- c. For lateral view (use occlusal mirror as a handle)



FIGURE 1—Record Photo. Twin Flash.



FIGURE 2—Side lighting with external flash.



FIGURE 3—Profile view with anterior flash.



FIGURE 4—Emphasize un-aesthetic bridge.



FIGURE 5—Camera set to 5500K White Balance with “Shade Rite” light.



FIGURE 6—G 11 with PhotoMed Close-up Attachment kit.



FIGURE 7—50D with Twin Flash.



FIGURE 8—Color and White Balance targets.



FIGURE 9—"Quick Start" guide.



FIGURE 10—Metal Cheek retractors.



FIGURE 11A—Combo mirror.



FIGURE 11B—Combo mirror in use.



FIGURE 12—Buccal #3 mirror.



FIGURE 13—Anterior Contrasters.



FIGURE 14—Occlusal Contrasters.

3. Buccal #3 mirror (Illus 12)

- a. For taking lingual view of posterior teeth
- b. For taking occlusal views of posterior teeth

4. Anterior "Contrasters" (Illus 13)

- a. To create a "black" background for anterior teeth

5. Occlusal "Contrasters" (Illus 14)

- a. To create a black border for maxillary occlusal views (hides lips, hair or nose)
- b. To create a black border for mandibular occlusal views (hides mandibular lip)
- c. Handle used as a black background for profile view of anterior teeth (hides cheek)

better framing and isolates distracting anatomy in dental photographs. The proper use of mirrors also allows a direct view of areas difficult to see by direct vision, while contractors hide distracting anatomy such as lips, tongue, palate or in a lateral anterior profile, the cheeks. Using these accessories may require additional hands to use effectively, but enhances the attractiveness of the photograph.

APPLYING GOOD PHOTOGRAPHIC PRINCIPLES TO DENTAL PHOTOGRAPHY

1. Determine your camera system is adjusted to optimum dental settings. Check battery strength in both the camera and the flash systems. Have the necessary accessories ready to use.

2. Know before you take the photo-

graph what you want to show and what you want to exclude in the photograph. Crop the photograph to show only the area of interest. Focus closer. Use contrasters (Illus 15) to exclude distracting anatomy. Use mirrors if you are unable to get a clear image with direct vision (Illus 16). Align the subject to the best viewing position. Know who will view the photograph and take the photograph so they will be able to understand your visual dental message.

3. Position the flash to direct light on the dental subject to best highlight anatomical detail. If taking the photograph directly use a flash which allows side lighting. If using a mirror, direct the flash on to the mirror, which reflects the light on the subject. (Illus 17)

Each of these accessories allows



FIGURE 15—Anterior teeth isolated with anterior and Occlusal contrasters.



FIGURE 16—Mandibular anterior teeth with occlusal contrasters.



FIGURE 17—Lateral view with light directed on mirror.



FIGURE 18—Annotations on shade photo.



FIGURE 19—Simplified portrait set-up.



FIGURE 20—Simplified portrait.

4. Use a large f-stop number. Focus on the subject of interest.

5. Immediately evaluate the photograph on the LCD Screen. If the image does not meet your criteria, retake the photograph.

ADDITIONAL APPLICATIONS FOR QUALITY COMMUNICATION DENTAL PHOTOGRAPHY

1. Annotations on photographs. Writing on photographs enhances the message by combining both visuals and words. Tablet PC's and graphic tablets have programs to conveniently annotate words on the photograph which can be saved to a new image. This image is an enhanced message to the recipient. I use this method to communicate with dental laboratories, when referring to dental specialist and communicating to patients. Annotations decrease the chance of misunderstanding our dental message.(Illus 18)

2. Dental Portraits. Medical style portraits are negative messages to the recipient. Most patients do not want to see themselves in the harsh lighting and posing of our dental record portraits. Professional portraits are lighted and posed to

show maximum attractiveness of the person. Huefner(6) has described professional portrait techniques for the dental photographer, and Dunn and Young* have developed a simplified in-office portrait technique which can be used in most dental offices without architectural modification or external multiple lights. The simplified portrait uses a single flash, Photo reflectors and a black background* taken with the patient in the chair, in front of a wall, or in a hallway. (Illus 19) A quality patient portrait can be given to the patient or used for marketing. (Illus 20)

SUMMARY

Dental photographs of communication quality, use professional photographic principles to take attractive, but highly effective photographs to tell a visual dental message. The visual dental message can be sent to patients, specialists, dental laboratories, and used in presentations, publications, or marketing. The quality of our images publically reflects the quality of our dental treatment and competes with professional photographs found in commercial advertising, magazines, periodicals and on the web.

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