A PICTURE is Morth...

A Three-Step Process for Taking Better Photographs

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Abstract

Digital photography is a constantly evolving medium that can be used in daily practice for a number of applications, including documentation and patient education. There is no "mystery" to taking quality images when simple rules are followed. The three most important steps in successful dental photography are selecting the right equipment, selecting the right settings, and improving basic photographic set-ups. Following these rules provides the ability to take photographs at a high level of quality on a daily basis. This article highlights some of these points to motivate readers to start taking pictures.

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Figure 1: Taking three images of a clinical situation from the same angle makes the series look more professional.

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Introduction

Imagine that you have just completed a clinical case, and you and the patient are both very pleased with the esthetic outcome. The restoration looks beautiful. Suddenly, you think: "Why didn't I take pictures before I started? This would have been a nice case to present or publish." Unfortunately, there is no way to turn back the clock and obtain these images.

Taking pictures is still not considered a standard procedure in daily practice. Yes, we do take pictures of extensive cases for our publications, presentations, lectures, and legal matters.¹ But this is not enough.

Furthermore, the author does not see many published articles in which a photographic protocol has been established or is strictly followed.² Certainly, the number of articles on clinical photography has grown since digital photography became affordable and, therefore, has become more popular.^{3,4} However, no uniform procedures for producing high-quality dental photographs currently exist for authors and publishers.

Establishing effective and consistent methods for capturing images is critical to faithfully recording and conveying clinical results.^{5,6} Varying angles of view and different degrees of cropping can not only make it difficult to compare before-and-after images, but it may also have an effect on the photograph's accuracy.

The author has reviewed many articles submitted for publication to *The European Journal of Esthetic Dentistry*. They range in quality from very poor to excellent, especially regarding the images.

It seems to be a challenge to combine clinical skills with an appropriate level of photographic documentation. Nevertheless, the author encourages readers to take more images. With digital photography, additional images do not create additional cost, but the information they provide is priceless.

Three-Step Process

Taking great images is part of a three-step process:

- choosing the right equipment
- · selecting the right settings
- improving the photographic set-up.

With the proper equipment and settings, the following tips can improve your photographic skills.



The most common error in dental photography is choosing an incorrect angle of view that leads to distorted and unnatural-looking images.

To avoid or correct this mistake, try to position the patient in the chair to get a straight horizontal view. If necessary, let the patient move his or her head to look at you. If you take a photo of a smile, aim at the center of the papillae of the central incisors. This creates the appearance that you have taken an "upside down" photograph, which will put the image on a horizontal plane. In addition, it is important not to change the angle of view while documenting a clinical case. Keep the same angle throughout the shooting (**Fig 1**). This small correction will make even the simplest of cases look much more professional.

Before starting documentation, think about the possible angles of view available. Ask yourself if there is a constant angle of view throughout the whole photo session.

Three-Step Process

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Tip:

Consider taking pictures as a standard procedure in your daily practice.

Position the Patient



Position the patient to get a straight horizontal view.

Figure 2 demonstrates the typical result when a patient sits in the chair with his or her head in a backward position. Notice that the teeth look too long (distorted) and the flash hits the incisal part of the surface of the front teeth.

To achieve a better angle of view, aim at the papillae in between the two incisors. The camera's flash is then reflected much better (**Fig 3**).

Try to take an image from "above" for an even better result. By doing so, it is possible to capture a horizontal view of the teeth (**Fig 4**).





Another common mistake in dental photography is taking images that are out of focus. When taking intraoral images, you should use a macro lens, be relatively close to the subject,⁷ and work with a small aperture (higher f-stop number = small aperture). This leads to a deeper depth of field in this photographic setting. When working with a close focusing distance, try focusing at the optimal plane in the canine and premolar area of the patient's mouth to achieve a better image result.

To obtain sharper images, try the following:

- Switch the lens to manual focus mode. Focus on the front teeth. With this fixed focus, move the camera slightly closer to the patient. This small shift adjusts the focus from the incisors to the canine or premolar region.
- Snap the shutter; this should guarantee that nearly everything is in focus.

Getting closer to the patient has another advantage. Most cameras show only 95% of what will be shown on the viewfinder. Moving closer also crops unwanted structures and tissues and makes the images appear even better without the need to manually crop later.

Avoid using autofocus when taking intraoral pictures, which wastes precious depth of field in front of the patient's mouth. Focus on the front and move slightly closer to the level of the canines or premolars. This prevents blurring (**Fig 5**). Almost all the teeth will be in focus if you follow this rule.



Figure 2: Image with the patient's head in a backward position. Standing in front of the patient and trying to take photos produces an unwanted angle of view; light from the flash hits the incisal edge, the highlights remove important information, and the tooth looks unnaturally long.



Figure 3: A corrected, horizontal angle of view in which the patient has been repositioned. When attempting this angle, aim the lens on the papillae between the incisors.



Figure 4: Consider taking a photograph from an even higher position. When you think you are shooting from directly above the patient, you may be straight. Try to take several shots and select the best one. Notice the uniform light reflections on the tooth surface in this high-position angle.



Figure 5: Avoid using autofocus when taking intraoral pictures. This prevents blurring, which is evident in this image that starts at the premolars.

Light Diffusers and Reflectors

Two small and efficient tools that can help to obtain consistently great portrait images are light diffusers and reflectors. By adding a light diffuser to the flash, you create a uniform, soft illumination of the patient's face. Additionally, using a reflector (silver when the patients are tan and gold when they look a little pale) can achieve better light flow and illumination of the patient, which eliminates "dark shadows" below the eyes. A gold reflector can also make patients look healthier.

Attach a small light diffuser cup on top of the flash. This helps diffuse the flash's light so as to avoid direct light, which creates shadows and red eyes **(Fig 6)**.

Use a double-sided reflector with a diameter of approximately 30 inches, and have the patient hold it horizontally in front of his or her chest (Fig 7).

While continuing to use manual exposure mode, change the aperture setting to around 5, which creates a slight blur around the face. Position the patient in front of a white or gray background (not too close, to avoid shadows) (Fig 8).



Figure 6: Placing a small light diffuser cup on top of the flash creates a uniform flash, eliminates the "red eye" effect, and creates a professional look.

By adding a light diffuser to the flash, you create a uniform, soft illumination of the patient's face.



Figure 7: This two-sided reflector should be positioned below the patient's chin. The silver side creates a colder reflection, and the gold produces a warmer reflection. Depending on the patient's skin type, either side can be used. This helps eliminate unwanted shadows below the eyes and chin.

Summary

Digital photography can not only help improve your practice and your patients' satisfaction, but it can also promote you in the dental community. Presenting quality images, particularly to colleagues at conferences and study clubs, can create a positive impression of your practice.

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Figure 8: Portrait taken with the aid of a light diffuser and golden reflector. In portrait photography, do not aim for great depth of field. Set the aperture to around 5, which creates a slight blur around the face for a soft effect.



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