TIPS FOR AUTHORS

Selection of a Digital Camera for Patient Documentation

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Digital images now represent the state of the art for documenting patient treatment and for illustrations in the Clinical Reports section of the *Journal of Prosthodontics*. The last "Tips for Authors" focused on recommendations for specific types of digital images to be included with the text of a Clinical Report. This discussion offers an overview of the digital camera itself.

Digital single-lens reflex (DSLR) cameras provide cutting edge visual documentation of patient care information. DSLR cameras allow the clinician to view, focus, and meter the image through the lens and then record it on digital media (memory cards). Multiple images can be recorded without additional cost in materials and little cost in time, providing several options for later selection. Numerous reports have been published elaborating the advantages and disadvantages of various digital cameras for intraoral use as well as providing "how to" discussions of photographing clinical images. Several excellent examples appear in the list of references following this discussion.[1–9]

The list of digital cameras specifically recommended for clinical use undergoes constant modification as the resolution and other features available seem to increase daily. Several that combine ease of use, state of the art optical features, and high resolution include: Nikon D40 (6 megapixels or mp), Nikon 40X (10 mp), Nikon D80 (10 mp), Nikon D200 (10.2 mp) (Nikon Corp., Tokyo, Japan), Canon EOS Rebel XT (8mp), Canon EOS Rebel XTI (10 mp), Canon 30D SLR (8mp) (Canon Corp., Tokyo, Japan).

The clinician-photographer may find it helpful to work with one of the companies that specialize in systems designed for the dental office. Examples include Lester A. Dine (www.dinecorp.com), Photomed (www.photomed.net), and Norman Camera (www.normancamera.com).[5] These firms can put together a specialized package tailored to the needs of the individual clinician that will include, in addition to the camera, case, retractors, mirrors, rechargeable battery, charger, memory card, and lifetime telephone support. The cost of a DSLR camera system suitable for the dental office can range from $1400 to $3500, depending on model and extras. To document clinical treatment with publication quality photographs, we recommend use of a digital camera with at least 6.0 megapixel resolution, a ring and point flash, and a macro lens. Other features useful for clinical or teaching applications include video and audio capability. It is highly recommended that prospective purchasers visit vendors during one of the many large dental meetings around the country, so that ease of use and image quality can be tested personally.

This review has presented only general recommendations for the documentation of clinical treatment. The specific features of DSLR cameras available for intraoral use would encompass a book. An excellent current text on the topic is *Mastering Digital Dental Photography* by Wolfgang Bengel. On the Internet, a comprehensive noncommercial review of digital cameras can be found at www.photozone.de/3Technology/camtec2.htm.

New ethical issues for the clinician and researcher are raised by the capabilities of the digital camera. In the past, the use of 35-mm film to document prosthetic treatment allowed only limited manipulation of the resulting images. Then, when it became possible to scan slides and input them into software packages, such as PhotoShop, additional alteration of images, especially modification of color, became possible. Today, the enormous versatility of the digital image-making process raises serious ethical issues relating to the extent to which the manipulation of such images for the documentation of research and clinical care should be regarded as ethical. In the next issue of the *Journal of Prosthodontics*, we will discuss ethical guidelines for editing digital images prepared for the documentation of clinical treatment.

References

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Correction

by Alethea B. Gerding, BS, MA, Managing Editor
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Two of our recent "Tips for Authors" columns stressed the importance of using correct terminology in formal, scientific writing. We work diligently to make sure that the *Journal* upholds the highest standards for prosthodontic research and writing.

Therefore, it is with regret that we note that in the very same column that we asked *you* to adhere to only correct terminology, *we* used incorrect terminology ourselves. Specifically, we stated that you should use the term "impression taking" instead of "impression making." Several readers pointed out our error, none more eloquently than Colonel Rodney Phoenix, Director of Prosthodontics Resident Education at Lackland Air Force Base. Dr. Phoenix's response to our error follows:

"Taking" an impression implies relative passivity of the operator in the associated clinical procedures. In contrast, "making" an impression denotes control over various aspects of this process. Indeed, an astute clinician makes earnest efforts to control the hard and soft tissues—with everything from moisture management, to gingival retraction, to material manipulation and tray placement. There are numerous factors which practitioners must control to be successful in the clinical environment.

The interchangeability of "taking" and "making" is commonly accepted by those who do not fully understand the clinical requirements or ramifications of impression processes. As the Official Journal of the American College of Prosthodontists, the Journal of Prosthodontics *should be held to a higher standard. With this in mind, "making" clearly should be the term of choice.*

You provided the example of "taking" a photograph—and, indeed, many photographs are taken. This occurs because most photographers exert little or no control over local conditions, subject placement, lighting, and a multitude of other factors. Most family snapshots are the result of such "point and shoot" processes. Nevertheless, this is far from the control that a professional photographer exerts in the creation of a photograph. Angles and perspectives are carefully considered, subjects are commonly "posed," lighting and apertures are meticulously controlled, etc. By exerting such control, a professional photographer "makes" a photograph. Indeed, the accepted vernacular is to "make" a portrait, not "take" a portrait. In much the same spirit, a prosthodontist controls the oral environment to "make" an impression, not "take" an impression.

*This is just one example of the impact that our words may have—and why we, as prosthodontists, must be precise when selecting terms.**

We sincerely regret the error, and, as always, appreciate the feedback we receive from the readers of the *Journal of Prosthodontics*.

*The views expressed in this article are those of the author(s) and do not reflect the official policy of the Department of Defense or other Departments of the United States Government.