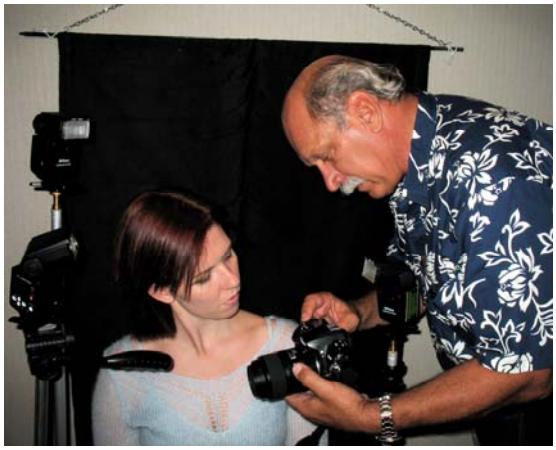
Digital Single Lens Reflex vs. Digital Point and Shoot Cameras

It is common knowledge that the world of technology is moving and changing rapidly and the growth of the digital camera is a classic example.

There are many benefits from the immediate feedback that a digital camera presents to you and your patient. Mastering this powerful tool, however, can be intimidating and overwhelming when you first enter this new arena. If you have utilized film or slides in your practice before there is a definite transfer of information in terms of light theory and capture techniques. However, the menu settings of the digital camera can make or break your application of the photographic process.

TYPES OF CAMERAS

The difference between the latest high end Point and Shoot cameras and a more expensive Digital Single Lens Reflex (DSLR) camera is minimal as far as picture quality is concerned.



In my experience as a professional photographer, I have had the pleasure of working with many dentists in my seminars and in-office workshops with many types of cameras. I have also had the opportunity to evaluate cameras from every price level in some of the most extreme environmental conditions from the bottom of the ocean to the depths of the darkest caves.

I have found that doctors who are high-end photo hobbyists with expensive DSLR camera systems are hesitant to allow their auxiliaries to use the camera for patient pictures. It seems to be a contradiction that assistants who take X-rays on patients using very expensive digital equipment are not allowed to take photographs with the doctor's DSLR.

Today's eight and ten megapixel digital point and shoot cameras with a quality close up lens and diffused flash adapters can be just about as effective as a Digital SLR camera at a fraction of the cost. The DSLR can provide two big

advantages however, and that is the ability to capture RAW digital files and the ability to provide more depth of field (what is in focus) for selected intraoral images. The biggest issue for either format is the ability to understand the camera menu settings and receiving coaching on how to use the camera in the dental environment.

The four most important settings on either camera are White Balance, ISO, JPEG Compression and File Size Resolution.

While the dental light in the treatment room will greatly aid in focusing and decreasing the shutter lag issue of the digital camera, the flash will be the dominant light source for color and shade matching. Therefore the *Flash* setting of white balance should be selected and a manual white balance with an 18% gray card should be locked into the camera memory.

ISO

The international Standards Organization (ISO) setting should be locked at the lowest selectable number in the camera menu. There is an abundance of light from the electronic flash when shooting from inches away, therefore 50, 80, or 100 ISO should be used (the lowest number for your brand of camera). Never select Auto (Automatic ISO). In Auto ISO mode the camera may be trying to help you out by going to a higher ISO number in a low light situation resulting *grain* or *digital noise*.

JPEG COMPRESSION

The Joint Photographic Experts Group format (JPEG) software compression that the camera automatically applies to the images (if not shooting in RAW) has names like *medium*, *fine*, and *super fine*. These names apply to how the edges of the rectangle picture elements (pixels) are rounded off to make the picture appear sharper. The camera applies this compression based on the menu selection. Superfine compression will result in a *noise free* (no grain looking effect) large images but it reduces the total number of pictures that can be placed on a storage card. The primary concern in the dental office should be capturing the highest quality image and not how many pictures you can fit on a storage card.
The present decrease in capture card costs and the fact that in your office you will probably only shoot about a maximum of 20 pictures of a patient before downloading them to your computer makes the concern about storage capacity a non-issue.

RESOLUTION

File Size Resolution is the fourth most important factor in the menu choices. An eight megapixel camera is so named because the image capture device has approximately 3240 X 2440 red, green, and blue pixels for a square area or eight million pixels. We want all of those pixels to be activated in the image capture sequence. Selecting *Large* will accomplish that. We can select *Medium, Low, Post Card, E-mail* and other choices to get more photographs on the storage card but the quality of each image will be greatly reduced when printed. All of these choices simply direct the camera as to how many Pixels Per Inch (PPI) will be in the finished photograph.

The bottom line is to capture the sharpest image with the largest file size and get as close as possible to the subject. This gives us the maximum amount of digital information in case we need to do any adjustments to the photo before we print it. We can always make a large file smaller, but small original files blown up as large photographs can lack the sharpness we desire.

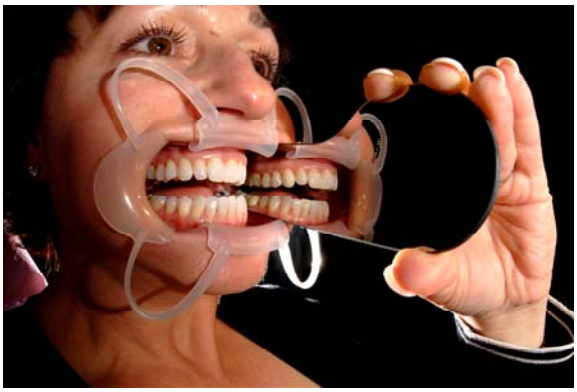
FOCUS

The last and most important item is how Focus is achieved and whether it is accomplished by Auto or Manual camera modes. Most Digital SLR shooters use manual focus and move the camera or focus ring fractions of an inch to achieve the sharpest image. That takes two hands with a heavy camera. Holding the camera steady is difficult for most new photographers. They must also look through a small optical viewer to compose the picture and capture the image before it can be viewed on the larger Liquid Crystal Display (LCD) screen on the back of the camera body.

Point and shoot cameras have a white focus box that can be centered on the LCD screen on the back of the camera so that the photographer can see what he is about to capture. Pushing the shutter release button half way down will turn the box green if the framed subject is in focus.
I recommend Point and Shoot Cameras with a fold out Liquid Crystal Display (LCD) screen. Such screens allow you to maneuver the camera independently of the viewing screen. These lightweight cameras with their folding screen make it much easier to maneuver and compose the image, and they are much less intimidating for the user and patient alike.

Not to be overlooked with either type of camera is the technique to be utilized for the sharpest picture. Fill the viewing frame with the image to minimize having to crop and throw away pixels in the editing process. Fewer pixels make a small file size which will greatly affect how sharp your enlarged prints appear. Therefore, do not rely on the picture editing process to fix your cropping and framing errors.

The quality of the image is dramatically affected by the exposure and focus. Intraoral photography presents many challenges. The exposure and the very small range of what is in focus in close up photography can be greatly affected by shadows, mirrors, fog, reflected images during occlusal shots, and whether you are framed on a hard incisal edge or on soft tissue.



Point and shoot cameras can be a great start for photography for your practice if you and your team have little previous photo experience. This type of camera may fill all of your professional needs. A Digital SLR may be more appropriate if you are experienced in photography and just may be the answer for your technically expanding dental practice.

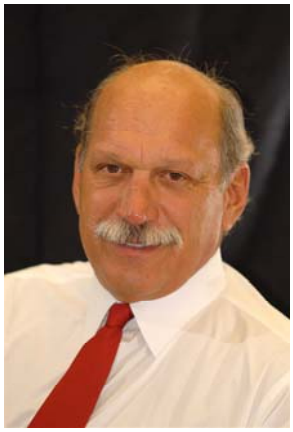
My best advice is to compare the cameras with your specific needs currently and evaluate the direction that you want to go to in the future. Become an aware consumer by shopping with someone who knows the product and who understands what you are trying to accomplish.

Great photographs help your patients visualize their own unique dental problems and concerns, and allow them to understand the recommended treatment.

Keep practicing and capturing.

With coaching and training you can overcome the challenges and confusion about digital photography. In no time at all you can capture great intraoral images for your patients
…Good Luck

ABOUT THE AUTHOR



Len Bucko

Len Bucko is the President of Len Bucko Photo.com. Len has had a curiosity and love for photography throughout his life His diverse background including twenty years of flying with the US Marine Corps as a Top Gun Instructor, serving as a commercial airline pilot with

American Airlines, forty years as a Scuba Instructor and Instructor Trainer and years of studio photography has allowed Len to travel the world, capturing images in the air, on land and beneath the sea. Ten years ago Lenny made the switch from film/darkroom to digital computer format and never looked back.

Most recently in his long photographic career Len has directed his talents to the field of dentistry. Switching to the digital computer format in the treatment rooms has left many dental personnel in need of hands-on training with the use of digital cameras. Lenny is filling that need. His resume now includes successfully coaching dentists and their auxilaries in the art of digital photography in the dental office as well as presenting to dental study clubs, dental societies and dental schools. His years of experience as a lecturer and educator combined with his love and knowledge of photography make Len the perfect digital dental photography coach.

Len Bucko Photo.Com
www.LenBuckoPhoto.com
info@LenBuckoPhoto.com