

# How The Digital Camera Has Changed The Way I Practice Plastic Surgery

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## Abstract

As Plastic Surgeons, we are constantly bombarded with new technologies that promise such lofty benefits as lighter scars, faster healing, easier fat aspiration, all with the pretense of improving income. But, fads come and go, some even return in different forms, but precious few actually impact the way we practice our specialty over the long run. Yes, the automatic dermatome was a huge improvement, as was the introduction of fiberoptic-lighted retractors, and some endoscopic devices, and easy to use titanium plating systems. These advances have had palpable changes on our day-to-day surgical practices. There has been another quantum advance in our field, one that has slowly taken hold and is systematically having an increasing impact on what we do as Plastic Surgeons – the conversion to digital photography. This technology is fueling a silent “revolution” in our field, as well as in others, and has offered some very unexpected benefits that have materially changed how I do business.

I must preface my remarks by stating that I was not an early adopter of digital photography. I was not initially convinced that a digital camera would replace my trusty Ektachrome and Nikon 6006. At the time, I was quite attached to my 35 mm camera, which was my loyal veteran of hundreds of rolls of film since my residency. So, while I played around with one of the early generation Olympus digital cameras, I still shot back-ups with my 35 mm, the shots from which I ultimately used while routinely ignoring the digital shots. The Olympus was difficult to focus, especially on macro shots, used up batteries quickly, had poor resolution and meager memory space. This all changed with the next round of digital cameras.

Figure 1



With the introduction of the 3-plus megapixel cameras, such as the Nikon 990, a little over a year ago, digital photography hit its stride. I can comment only on the 990, the model that I still use, and emphatically state that I am so pleased with it that I don't even remember where my SLR is. Colleagues who opted for Minolta models are similarly impressed. The cameras are quite easy to use after a gentle learning curve, offer more manual controls than I know how to use, and fortunately have “surgeon-proof” automatic modes under which I usually operate. A resolution in excess of 3 million pixels is not as dense as 35 mm Ektachrome slides, but appears to be sufficient for publication quality and projection in a large audience. Memory is cheap these days, allowing storage of in excess of 100 high resolution images on a single card or stick.

Other benefits of going digital are obvious: Digital pictures are available immediately and offer an ease of distribution

that conventional photography hasn't achieved. Aside from sharing the images with patients, the pictures can promptly be shared with colleagues and residents, allowing enlightened discussions about appropriate management. They can be electronically copied, emailed immediately, entered into a presentation at a moment's notice, studied preoperatively immediately after being shot. Even when accounting for the increased cost over a 35 mm conventional camera, the hardware and software costs needed to process the images (the subject of an upcoming editorial), digital photography is ultimately cheaper. There's no film to buy and no developing costs, two of the ongoing expenses in conventional photography. Memory cards continue to drop in price with 128 MB devices now costing less than \$75. With proper care, the cards last a long time, if you remember to reformat them after each download. And, perhaps the best thing of all is that storage of these images takes up only hard drive space, which could amount to several Gigabytes of space (you'll need a big one, but they are relatively cheap), depending on the resolution used. Gone are the binders that used to occupy precious space in my office, since I have since scanned my 35 mm slides into the computer as well. Archiving issues are a different matter, again to be discussed at a later date.

Now for the unexpected benefits -- When speaking with the family of a patient on which I just operated, I have found it useful to offer them a viewing of some of the intraoperative pictures on the small LCD screen of the camera. I should emphasize the word offer, since this is not for all families; rather it is only appropriate for the interested ones. To my

surprise, most family members reply in the affirmative when given the choice to see the defect with which we were faced. In the case of immediate reconstruction of the breast, the family has the opportunity to see the defect, the flap result on the table, perhaps allowing the family to gain a better understanding why the surgery was so lengthy. In a sense, this approach allows the family, and even the patient at a later time to "live with the defect", even if virtually and briefly. They also have the opportunity to see your work before swelling and echymosis develop, a target they would otherwise have to trust will be the end result. This view on the monitor, however small, gives the patient and family a great deal of "information", a commodity they have precious little of in the course of patient care. The digital camera allows me to provide such information in a "real time" fashion.

I could go on and on extolling the virtues of digital photography, but the point of all this was to describe this quiet revolution that has positively affected our specialty. It is refreshing, for a change, to reflect on something that has helped the field of Plastic Surgery, rather than hurt us like the never ending discussions about declining reimbursements and turf battles with other disciplines. No doubt that as technology continues to advance and price fall, an increasing number of Plastic Surgeons will digitize their practice. As they do, they will realize unexpected benefits of digital imaging as I did, and probably discover a few additional reasons to trade their trusty SLR for a new digital device.

## **References**

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