

# Introduction to Medical Photography

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The word *photography* is derived from the Greek words *photos* (“light”) and *graphein* (“to draw”). The word was first used in 1839 by scientist Sir John F.W. Herschel.<sup>1</sup> Photography is a method of recording images by the action of light, or related radiation, on a sensitive material. Photographs capture a life-like view of the subject, whereas sketches, drawings, and paintings are subject to the interpretation and skill level of the artist. Photographs objectively document patient subject matter to verify the observations made and for teaching purposes.

Dermatologic diagnosis is based on a visual memory store of clinical observations, all of which are retained as “photographs” in the mind’s eye of the dermatologist. For documentation or instructional purposes, words never adequately describe a picture in the mind; that picture is best conveyed by a visual image—a photograph.

I have been taking photographs since I was 7 years old. Photography, as well as art (I can draw and paint, but cannot sing), are the passions of my personal life. I originally photographed and sketched family, friends, places, and things. On completing medical school, I discovered the passion of my professional life—dermatology. I soon realized that I could more easily and accurately photograph than sketch the object of this passion—cutaneous maladies. With the realization that I could combine both personal and professional passions, my interest in the art of medical photography was born.

In addition to being a clinician, I am a teacher. I hope to leave a lasting legacy to the field of dermatology via my collection of more than 200,000 slides from patient photographs of clinical dermatologic disease that I have taken. Many of these photographs are accessible for teaching purposes from [www.dermquest.com](http://www.dermquest.com).

Although this article is not intended to serve as a basic photography course, I do hope to pass on some of the

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technical aspects of, and the joy I have found in, the art of medical photography.

## Medical Photographs

I believe that high-quality medical photographs are most important in dermatology, the most visual of all medical specialties. Clinical, high-quality photographs are essential to document presenting symptoms and monitor therapeutic progress (Figure 1). For example, has that lesion changed since the patient’s last visit? Has the melasma area and its severity decreased since treatment initiation? Did I miss anything during my initial examination? Only with high-quality photographs taken under exact, reproducible conditions can these questions be answered with certainty.

Medical photographs are an important resource for patients as well. Over time and with successful treatment, patients may forget how severe their skin condition was before treatment and will perhaps feel unsatisfied because a few vestiges of the condition remain.

## The W’s of Photography in Your Practice: Who, What, When, Why, Where

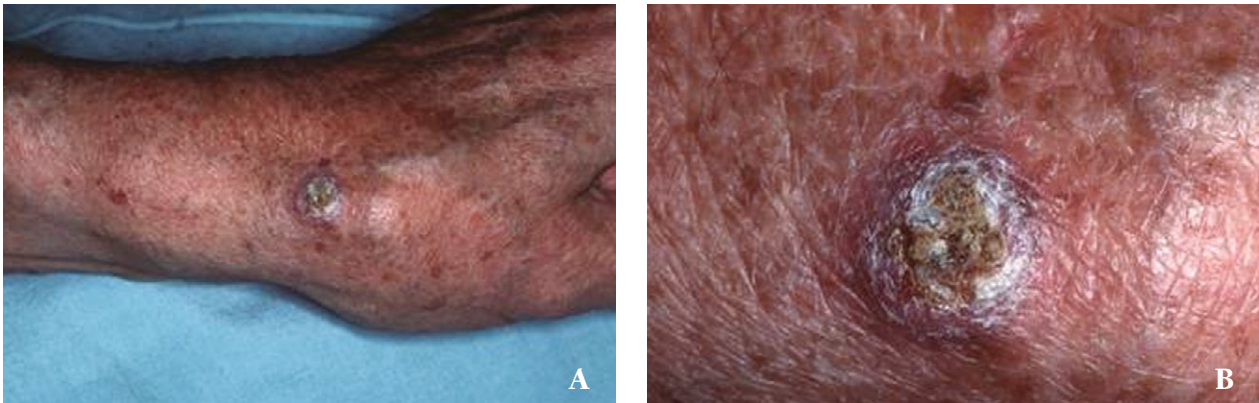
### Who Should Be Photographed in My Practice?

Every patient you see in your practice should be photographed. One can never tell when a photograph of



**Figure 1.** Example of a perfect medical facial photograph that can be used to document presenting symptoms and monitor therapeutic progress.

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**Figure 2.** Patient photographs taken to show disease location on wrist (A) and details of the tumor (B).

even the most mundane case of teenage acne may be of value.

### What Should I Photograph in My Practice?

Everything you see is a worthwhile subject. In my practice, we take 2 photographs of nearly every lesion we remove. One photograph is intended to locate the lesion anatomically; the other is used to display the details of disease and treatment progression (Figure 2). The first photograph is taken to locate the lesion anatomically (1:8, 1:5, 1:4); the second to demonstrate the clinical findings (1:3, 1:2, 1:1.5, 1:1).

### When Should I Photograph in My Practice?

I document many cases with photographs, starting with a patient's first visit, because I never know when I may need a photograph for a specific teaching purpose or when I may want to review the patient's history in visual images. It is essential to obtain baseline and follow-up photographs at each visit, as well as to document treatment results for drug studies.

### Why Should I Photograph in My Practice?

Some common reasons to take photographs of patients' conditions are to locate a now-healed biopsy site from a previous visit so that I know the area to reexcise, to document the before and after of a cosmetic procedure, to reassure patients of treatment progress, and to follow the evolution and resolution of inflammatory lesions. Photographs are reminders of therapeutic success for you and your patient, they are teaching tools, and they represent an opportunity to fine-tune a skill and an art.

As it is for me, taking photographs may become a passion and an obvious part of the patient's visit. You may find that as you take more photographs of what

feels right to you, you will start developing a photography style that is uniquely yours—a style that you and others will recognize. Photographs are a part of you: your likes, perceptions, and beliefs about what is worth documenting and immortalizing. Capturing photographs takes place on an unconscious level as well as a conscious one. You cannot always quantify it; that is the beauty of it.

You can use photographs as a teleconsultation (or telemedicine) tool to send to colleagues or special-interest medical discussion groups and for constructing professional Web sites. Medical photography is essential to building and enhancing the success of your practice with before and after images and to objectively demonstrate your ability and experience in dermatology.

### Where Should the Photograph Be Taken?

I think it is essential to have a fully portable system that can be set up and used anywhere—in the office, at the hospital, in nursing homes, and in teaching clinics.

### Equipment

Some may consider me old-fashioned because I have not converted to digital photography. I do not plan to, and here is why: the amount of information that can be recorded on a slide greatly exceeds that which even the best digital cameras can reproduce. Even a 5- to 10-megapixel digital camera will not record as much information as can be embedded in emulsion. With my 35-mm slide-film camera, I can reproduce the same image a week, a month, or even a year later with the same magnification, angle, distance, and lighting. A Kodachrome photograph cannot be altered, whereas a digital photograph can be.

At present, I have a Nikon N80™ 35-mm, single-lens reflex (SLR) camera mounted with a 105-mm,

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f/2.8D AF Micro-Nikkor lens in each of my examination rooms. The 105-mm lens is a medium telephoto lens for portraits and high-magnification close-ups. I use a Canfield TwinFlash™ system, designed specifically for photographing skin without creating harsh shadows, with through-the-lens (TTL) digital metering. After setting the desired magnification and f-stop, the Canfield TwinFlash TTL unit will read these settings and automatically produce the correct amount of light. Reproducibility is nearly impossible when using the automatic focusing, or autofocus, feature; to obtain the correct focus, you should move the camera back and forth with reference to the target subject. It is important to use only manual focusing with the Nikon N80 camera, even though it has an autofocus option.

Having compared a number of films, I find that Kodak Ektachrome 100 Professional 135- to 136-roll EPN film gives exceptional color accuracy for the slides I use in my presentations. Although I do use Microsoft PowerPoint® to format my presentations, it is not necessary to project original material directly onto the slides. The fewer steps between the original and what you project, the better the results.

Processing is important, too. I work with a nearby lab and am comfortable with their quality-control procedures. If you use film, it is essential to find a lab that still maintains control of processing temperatures and colors and knows immediately if a mistake has been made. It is important to remember that the camera or the development process does not create the pictures—the vision of the photographer does.

Just as dermatology is an art, so is medical photography. Both are learned through years of practice.

## Common Photography Terms

### Autofocus

Autofocus is a system by which the camera lens automatically focuses the image of a selected part of the subject. The autofocus camera became popular with the launch of the Konica Minolta Maxxum. Currently, most SLR cameras are autofocus based, but all have the option of manual focusing.

### Magnification Ratio

This ratio expresses the greatest possible on-film magnifying power of the lens. It is used commonly on the macro setting of a zoom lens, on a macro lens, or with bellows.

### Manual Focus

The user selects both the shutter speed and the aperture, following or ignoring the meter's recommendations, to achieve the desired exposure.

### SLR Camera

An SLR camera allows the user to see through the camera's lens while looking in the camera's viewfinder. Other camera functions, such as light metering and flash control, also operate through the camera's lens.

### Through-the-Lens Metering

This camera design allows the user to compose an image while viewing the scene through the lens.

## Reference

1. Rideal L. The developing portrait: painting towards photography [National Portrait Gallery Web site]. Available at: <http://www.npg.org.uk/live/edtransition01.asp>. Accessed June 1, 2007. ■