

Facial Photography: The Basics

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In my last column, I outlined some of the basics for obtaining high-quality medical images and photographs (MIPs) and explained why it is important to obtain MIPs of every patient you see and every lesion you remove. I also discussed equipment, film, and the all-important issue of reproducibility in medical image making. This month I will focus on examples of how to obtain the most useful images for full facial areas and facial lesions. By useful images, I mean those that can be used to aid in diagnosis and can be reproduced each time the patient is in the office to provide an accurate tool for following the patient's progress—images that are composed to optimize presentation of the features you want to record.

Composition

There are a number of considerations regarding the orientation of a clinical photograph. Traditionally, cameras are designed to photograph in the horizontal position. By rotating the camera 90° so that the subject is vertical, we can fill the frame and double or triple the image size. Which axis you decide to use will depend on what you are trying to show. Do you want a close-up view of the lesion, or do you want to have a sense of where it is located on the face? It is important to place the camera in such a way that the film plane (ie, the back of the camera) is parallel to the principal anatomic axis of the subject. A line from the nose to the earlobe is parallel to the floor as shown in Figure 1.

When making MIPs for dermatologic diagnosis, it is useful to obtain scan, location, and detail shots (Figure 2). These are shots made at varying magnifications so that the size of the image relative to that of the subject is expressed as a ratio, as shown in Table 1. Scanning shots at magnifications of 1:12, 1:8, and 1:5 demonstrate the extent and distribution of the pathology. Location shots at magnifications of 1:5, 1:4, and 1:3

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show the location of the disease by establishing anatomic landmarks. Detail shots at magnifications of 1:2, 1:1.5, and 1:1 (life size) demonstrate fine detail of the primary and secondary lesions. Even at these magnifications, try to include some anatomic landmarks for reference.

Framing and cropping are used to ensure that the subject is optimally placed within the frame with emphasis on the desired feature and background distractions minimized. Framing medical photographs correctly is done by positioning the patient in the viewfinder in such a way that permits maximum visualization of the skin involvement. It is helpful to keep the imaginary line



Figure Not Available Online

Figure 1. Photograph showing the line from the nose to the earlobe, parallel to the floor, when the film plane is parallel to the principal anatomic axis of the subject.

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Figure 2. Scan (A), location (B), and detail (C) shots at magnifications of 1:5, 1:3, and 1:1.5, respectively.

from the top of the tragus to the junction of the orbital rim (also known as the Frankfort line) at true horizontal. To do this, a mirror can be placed 4 feet in front of the patient, who is asked to stare into his or her own eyes. The patient is then instructed to maintain this eye level for all photograph angles. Figure 3 shows some of the common angles that are most useful for dermatologic photography, ranging from 0° (full frontal) to 45° (three-quarters frontal) to 90° (lateral).

Unwanted or unnecessary clutter can be removed from the field of view by cropping. Cropping is done by moving in closer or angling the lens to emphasize a particular area. Another way of removing distractions is to replace a cluttered background with a photographic material, such as a surgical drape, black velvet, or a painted wall or door. The best background colors for this purpose are grey, grey-blue, green, or black. Another means for creating a high-contrast, dramatic background is achieved by moving the subject to a place that has maximum space behind it, which will produce a vignette on a dark background.

It is essential for clinical photographs to rid the subject of all eyeglasses and jewelry, including body

piercings, necklaces, and even watches—not only to avoid distracting the eye and compromising the medical image but also to ensure reproducibility from appointment to appointment (Figure 4). Once a subject has removed any jewelry, the eye is directed toward the lesion and no longer distracted. For facial photographs, have your nurse or technician remove the patient's makeup. If the hands are to be photographed, nail polish should be removed. If the patient comes in wearing wild colors or patterns or otherwise distracting fashions, a patient gown is more suitable.

Special Considerations for Photographing Patients of Color

Skin of color ranges from the blue-black shade of some continental Africans to the lighter tan to brown shades of African American, Asian, and Latino individuals. In addition to pigmentary differences, skin of color may be oilier and thus more reflective—in some cases, highly reflective. Bear in mind that you must calculate the exposure for the lesion rather than for the underlying basic skin color. For light lesions, such as vitiligo, less light is needed. Close down the lens from aperture

Magnification Guide for Medical Images and Photographs

Photograph Magnification	Fraction/Size Ratio
1:12	1/12 of life size (one-half body view)
1:8	1/8 of life size (full face, chest, shoulder)
1:5	1/5 of life size (frontal face/three-quarters face)
1:4	1/4 of life size (forehead, nose, cheek)
1:3	1/3 of life size (eye, nose, mouth)
1:1	1/1 of life size (actual size)

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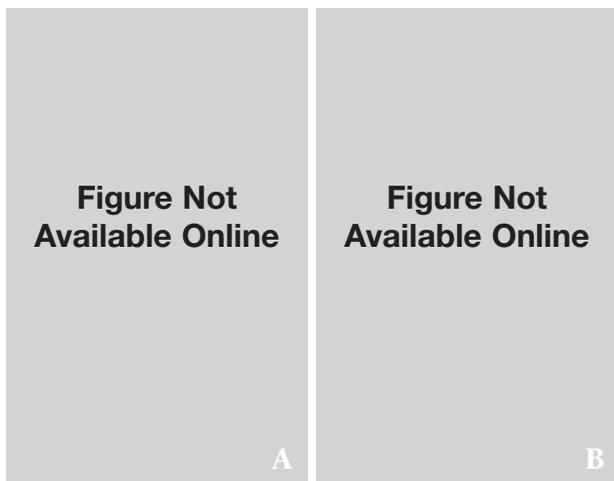


Figure 3. Photographs showing common angles useful for dermatologic photography: 0° (full frontal) (A), 45° (three-quarters frontal) (B), and 90° (lateral) (C).

opening f/11 to aperture opening f/13. For darker lesions, such as postinflammatory hyperpigmentation, open up the lens from aperture opening f/11 to aperture opening f/5.6 to allow more light (Figure 5).

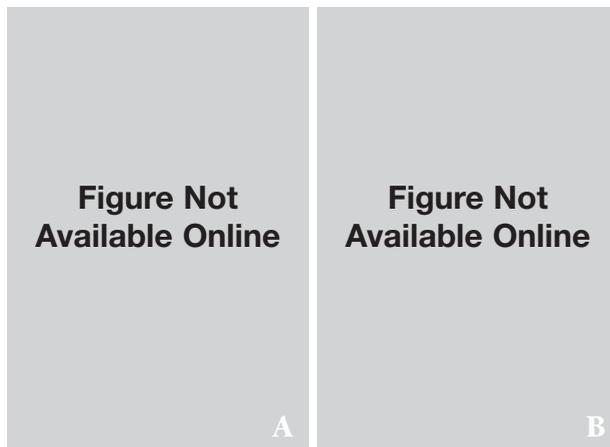


Figure 4. Photographs with (A) and without (B) distraction (in this case, eyeglasses).

Summary

Consistent guidelines regarding the composition of photography in the making of dermatologic MIPs are crucial. The most important considerations are framing and magnification, which are dependent on the purpose. Generally, I advocate obtaining scanning, location, and detail shots so that you can go from the general overview of the patient's facial pathology to a detailed, high-magnification view of individual lesions. It is important to avoid distracting backgrounds; this can be done by thoughtful framing and cropping and also by removing all eyeglasses, jewelry, or makeup. Light is reflected differently from different skin phototypes, and it is important to be aware of this when photographing individuals of color. Finally, to obtain the most readable MIPs, expose for the lesion and not the underlying skin color. With these basics in mind and some trial and error, you should see an improvement in the quality and utility of all of your facial photographs. ■



Figure 5. Clinical photographs of skin of color showing acne keloidalis nuchae (A) and dermatosis papulosis nigra (B).