SPECIAL

Criterious to submitphotographs *

Critérios para submissão de fotografias digitais

Andrelou Fralete Ayres Vallarelli [1]

Abstract: Dermatological photography is used as a supplement to dermatological examination with the function of providing additional knowledge and information. Its quality depends on the expertise of the photographer-dermatologist in recording the relevant elements present. Therefore, the dermatologist should know basic principles of photography and the journal editors should ensure that the articles have high-quality images. This article suggests criteria to improve the quality of photographs submitted to journals for publication.
Keyword: Dermatology; Diagnostic imaging; Photography; Photography/standards

Resumo: A fotografia dermatológica é complementar ao exame dermatológico. Sua função é ser um veículo de informação do conhecimento e sua qualidade depende da perícia do fotógrafo-dermatologista em registrar os elementos relevantes de uma cena. Por isso o dermatologista deve conhecer os princípios básicos da fotografia e os editores dos periódicos devem assegurar que os artigos tenham imagens de alta qualidade. Este artigo sugerecritérios para melhorar a qualidade das fotos submetidas aos periódicos.
Palavras-chave: Dermatologia; Diagnóstico por imagem; Fotografia; Fotografia/normas

INTRODUCTION

The information contained in a dermatological photograph will only be effective if it reproduces faithfully the manifestation or the cutaneous manifestations that the author wants to render reproducible in several areas of scientific knowledge.

Dermatological photography will only be effective if it faithfully reproduces the cutaneous manifestation in question. For that purpose, the photographer-dermatologist should master the basic principles of photography and the equipment he or she will be using.

A dermatological photograph should be clear and objective. Its goal is to become a record, a vehicle for disclosure, analysis and interpretation of knowledge. It lends itself to teaching and consulting, and is exempt from language barriers. Its quality depends entirely on its author's skill and effort. [1-4]

The study of the basic principles of photography should be an integral part of the medical residency curriculum courses in dermatology. That would facilitate the elaboration of scientific articles and the use of techniques such as dermatoscopy and nevi scanning. Many journals have turned down articles due to the poor quality of their images.

The dermatological examination is a visual inspection. Its analysis and the recognition of elementary lesions are essential resources in the training of the resident. Its interpretation will help the dermatologist in the elaboration of differential diagnoses.[5, 6]

The editors of the Brazilian Annals of Dermatology (Anais Brasileiros de Dermatologia — ABD) should make sure that their articles have high quality images. These images are powerful tools to promote our developments among our peers and the international scientific community. The quality of our communication states the quality of our specialty, and to ensure that the images submitted suit the current standards of the ABD, we request that the following criteria be met.[5, 7]

Setting the scene:

• Carefully check the details of the scene to be photographed.

• Find a place that provides enough distance in order to take a picture of the whole body of the patient, if necessary.

• Use a neutral background in monochromatic colors like gray, blue and preferably black, which absorbs the shadows caused by flash light. Avoid shiny fabrics.

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[1] Doctoral and Master's degree, focus on Clinical Medicine studies, Faculty of Medical Sciences, State University of Campinas (UNICAMP) — São Paulo (SP), Brazil.

• Take the time to choose the most significant (relevant) and interesting lesion, the one that clearly expresses what is meant to be highlighted.

• Remove any objects that may distract attention from the main manifestation, such as earrings, bracelets, necklaces, wristwatches and other accessories. Cutaneous manifestations of interest must be free of bandages, sticking plaster marks, scabs, nail polish, prostheses and so on. That is, patients should be free of any element other than the skin. Unless there is a cause and effect relationship.

• Center the object to be photographed. It should take up most of the available rectangular space on the viewfinder or display of the camera. This space should be used in a rational, harmonious and well-balanced way, without interferences and as cost-effective as possible. Do not leave empty spaces, unfocused planes or elements that do not belong to the scene.

• Position the camera with good sense. If the major axis of the image being photographed is vertical, place the camera in portrait mode. If horizontal, in landscape mode.

• Start taking pictures from longer distances (panoramics), followed by average distances, and finally detailed close-ups which highlight the most important elements.

• Choose the best images for submission.

• For follow-up photos (before and after), try to reproduce faithfully, in the latter session, the settings, lighting and positioning used in the previous one.[4, 5, 8]

Dermatological photography:

• To avoid blurry pictures, press the shutter button halfway or move the camera smoothly in various directions until the system finds the correct lens focus. Switch on the sounder which signals when the camera has found focus. Use a tripod for steadiness. Adjust the diopter setting.

• Respect the minimum distance imposed by the telephoto lens. It is not advisable to use fixed-focus cameras in the making of dermatological photography.

• Use equipment that allows for interchangeable objective lens or which provides higher image quality and more optical resources, such as different focal lengths, accuracy in focus — even over short distances — precise framing, preview of field depth, through the lens light measurement (TTL metering), flashes with light intensity control and various accessories and adapters for microscopes and dermatoscopes.

• Avoid the use of objective lenses with short focal length (wide-angle or lenses with 28 mm focal length), because that could result in distorted images with less noticeable details.

• Avoid using digital zoom. The real effect of approximation and amplification of an object is obtained by means of optical zoom, special "macro" lenses or close-up filters. The power of the lens is given by the lens focal length (the distance between the lens and the vivid image of an object located at infinity). The greater the focal length, the larger the image. The greater focal length magnifies the detail, affords narrower angles of view and field depth, furthermore exaggerating the lack of clarity in the movement of the camera.[4, 5, 8]

Macrophotography:

• In macrophotography (close-up) a 50 mm objective lens can focus on an object at a distance of 23 cm with a 0.5 amplification. A 200 mm macro focusing on an object at 58 cm yields a full-sized image.

• 55 mm or 60 mm and/or 105 mm lenses are ideal for macrophotography in dermatology. Rings or extension tubes, bellows and approximation (close-up) lenses are other possible accessories.

Lighting:

• When photographing very close to an object, under natural light, there may not be enough light. The closer the lens is to the lesion, the least planes will be focused. In order to avoid these two situations, the setting (mode) Aperture Priority (if available) should be used. Place the camera parallel to the skin, for in the slanted position the field depth can be easily lost. The length of the objective lens can block the light coming from the flash built into the camera. To avoid this, use a circular or portable flash positioned in such a way that the light falls sideways to the object.

• Use a circular flash, reflective mirrors and 60 mm or 105 mm macro lenses to photograph the oral cavity.

• Whenever possible, use an electronic flash, because its power and color temperature are constant (5550K). The ambient light undergoes changes throughout the day, interfering with the quality of the color.[4, 9-12]

Adjusting the equipment:

• Set the camera to 3 megapixels or more. The image should retain a high enough resolution to be edited if necessary.

• Adjust the camera to the Super Fine or Fine modes, in order to achieve higher quality pictures.

• All digital cameras capture images in RAW format (the native proprietary format of each manufacturer), which is then converted to the JPEG and TIFF (Tagged Image File) formats. The quality of the image can be adjusted in the equipment according to the fol-

lowing modes: RAW + JPEG Fine, Normal, and Basic and JPEG Fine, Normal and Basic.

• Adjust the ISO mode (ASA) to the 100 value for higher resolution.

• When adjusting the macro mode for close-up shots, the system searches for the largest possible aperture size and the best speed, compromising the field depth.

• Adjust the White Balance (WB) if you plan to take pictures in ambient light. If you are going to photograph in a room with fluorescent lights, adjust the WB to fluorescent light, and so forth.[4, 9-12]

Criteria for submission:

• Authors are responsible for sending images with features as close as possible to the actual objects or the original photos. Incorrect handling of the settings may prevent the image submitted to the ABD from being edited.

• Insert originally digital ou digitized images in the form of files with the extension "jpeg" and "tiff," and a minimum resolution of 300 ppi (dpi).

• Avoid excessive manipulation. Some procedures such as digital JPEG compression introduce colors or shades of pixels that should not be present in the original image (noise). The noise belongs to the process and not to the captured image.

• Do not send images saved as or embedded in Microsoft Word or PowerPoint files.

• Submit the digital file in its original color mode. For most digital cameras, that mode is RGB color. Even though most of the magazines and newspapers use the CMYK process for printing, it is best to leave it up to the graphics department of the magazine to perform this conversion.

• After downloading the pictures onto your computer you can choose the file format. If you choose JPG, pick the highest quality option.[12]

• Do not submit files at 72 dpi resolution. We suggest that the files be saved at 300 dpi. For this procedure not to alter the number of pixels follow these steps in Photoshop, the program used by most people: Click <Image> in Photoshop's control bar, then <Image size> and disable the item Resample Image. See that the Dimensions in Pixels present in the upper part of the frame are blocked. Set the resolution to 300 ppi (pixels per inch). Then activate the Resample Image item and finally click OK.[4, 9-12]

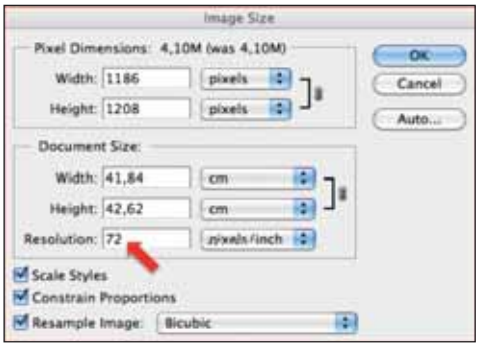

Figure 1: Window image size showing the number of pixels and the size of the document

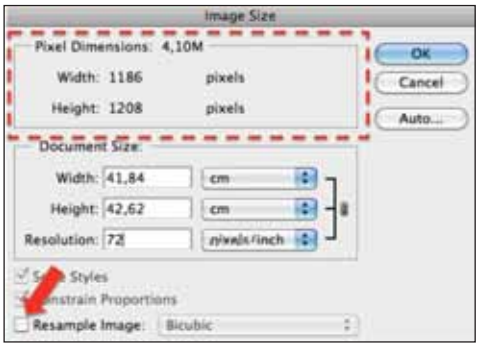

Figure 2: Deactivation of the "Resample Image" button

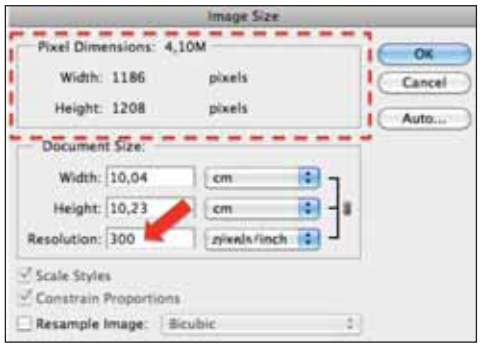

Figure 3: Adjustment of the image in 300 ppi

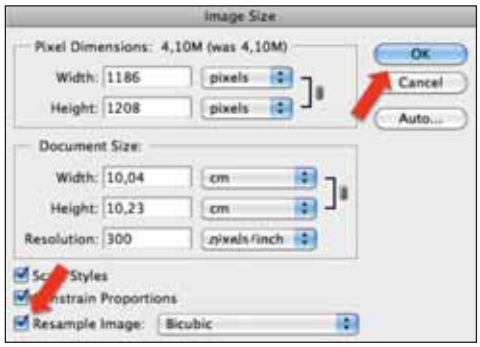

Figura 4: Ativação do "*Resample Image*"

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