Ten top tips for taking high-quality digital images of wounds

Wound photography can enhance the assessment of the patient, their wound and environment if the images are clear. Used in association with a medical and wound history, images will influence decision making and the planning of treatment, and they also provide an opportunity to map the wound. This article underlines ten top tips associated with taking high-quality digital images of wounds. These simple guidelines are given to support of the unskilled photographer to achieve clear, crisp wound images.

The adage "Use a picture. It's worth a thousand words" was first used in a newspaper article in 1911 (The Phrase Finder, 2014). This statement is also applicable in wound care, as an image allows for the thorough assessment and mapping of a wound.

Clinical images potentially enhance the assessment of patients, their wound and their environment — in terms of the latter, a wheelchair, a bed, even clothing can influence wound healing (Buckley et al, 2009). When providing care at a distance, for instance, via telehealth or telemedicine in Australia, wound images are frequently taken to assist in diagnosis and treatment of the patient.

These photos are often taken by unskilled photographers, including nurses, relatives, or even patients themselves. The quality of images will vary, but the aim is always to use the images in association with the patient's wound and medical history; using written descriptions
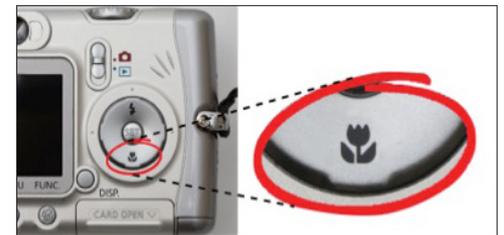
Figure 1. Macro function — identified by the flower icon highlighted here — switches the camera into a close focus mode, allowing more detailed images of the wound to be taken.

to evaluate the wound, plan treatment options and monitor progress (Sikka et al, 2012; Sperring, 2013).

Attention should always be on the patient, ensuring that they are well informed, comfortable and aware of the processes (Creighton et al, 2012). Managing wound images and patient information involves issues of consent, confidentiality, privacy and security (Burns and Belton, 2012; Routsalainen, 2010) and all images in this article were used with the written permission of the patient.

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Addressing these issues involves all health services and professionals. Secured messaging systems must be used when sharing images and the healthcare professional should be aware of, and ensure compliance with, policies, regulations, and acts that govern practice (Garg and Brewer, 2011; Fernando, 2013).

This article provides ten top tips for the unskilled photographer (Rennert et al, 2009; Prentice and Baker, 2013) with the aim of helping to produce clear, crisp images of wounds that will be clinically informative.

1 USE A DIGITAL CAMERA OWNED BY YOUR PLACE OF WORK

▸▸ This should be simple to use, i.e. 'point and shoot'
▸▸ It should have an SD memory card – at least 4GB, two cards will ensure sufficient memory
▸▸ It should also have a macro function (identified by the flower icon; *Figure 1*) — this switches the camera into a close focus mode. This feature is present on most compact digital camera.

2 SET THE TIME AND DATE ON THE CAMERA

It is important that the camera records the date of an image, which will be the date shown in any database system used to store images.

Figure 2. The flash Function should be set to 'on.'

3 GET THE LIGHT RIGHT

The clinician should ensure the camera flash is set to 'on' — not 'auto' or 'off' (*Figure 2*).

4 TAKE THE FIRST PHOTOGRAPH OF PATIENT DATA

The first photograph should give the patient's demographics, including patient name/identification number, date of birth, location, and a brief clinical history. Store this photograph with the patient's other images to help identify images for quality improvement audits.

5 MAKE THE WOUND THE ONLY FOCUS

Remove clutter from the background and use a white drape behind subject or limb (*Figure 3*). This will aid with clarity and prevent the background being a distraction.

6 STANDARDISE THE VIEWS TAKEN OF THE WOUND

Previous photographs that have been taken of the wound should be checked to ensure you take similar views, magnification and angles. This will assist when reviewing images over a period of time.

7 GET THE ANGLE RIGHT TO TAKE A PROPORTIONAL IMAGE

When taking a photograph, the camera body should be parallel to the subject (*Figure 4a*). This results in a photograph that presents accurate proportions of the subject (*Figure 4c*). If the camera body is not parallel to the subject (*Figure 4b*), the proportions of the subject will be distorted (*Figure 4d*), making effective assessment of the size and extent of the wound in the image difficult.

8 ESTABLISH THE WOUND LOCATION FOR THE VIEWER

The first photograph should show the location of the wound in relation to the body to provide a sense of perspective.
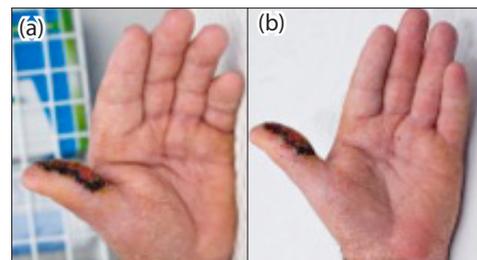
Figure 3. (a) Do not photograph the wounds with clutter in the background. (b) A white drape should be placed behind the wound to allow clear visualisation.
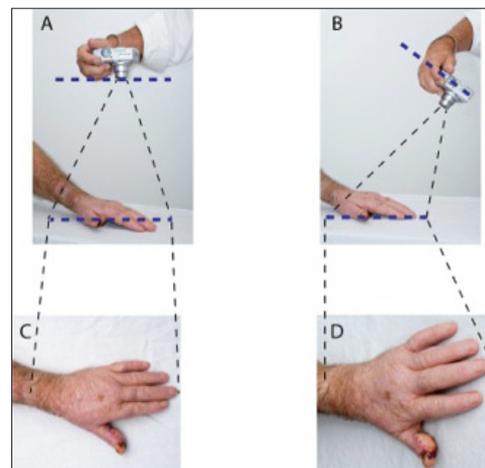
Figure 4. (a) Correct position for the camera body to be held in order to take (c) a proportional view of the subject; (b) holding the camera body at an angle to the subject results in (d) a distorted image.

Figure 5. A close-up image including scale.

9 CLOSE-UP IMAGES ESTABLISH DETAIL FOR THE VIEWER

A close-up photograph should be taken using the macro setting (as described in top tip 1; *Figure 1*). A ruler should be placed near the wound to give an accurate indication of the wound size (*Figure 5*).

An L-shaped ruler is preferable, however, a standard ruler also works well. The photograph should be checked to determine whether it is in focus on the screen before leaving the patient. Blurred photographs should be discarded as they can be misleading.

10 SECURELY SAVE AND STORE THE IMAGES

Images should be uploaded to a secure location or database at the end of the consultation and delete the images from the camera. The most secure method of removing images is to reformat the DS memory card via the camera menu.

Conclusion

Wound images provide a visual reference, not matched by memory or the written word (Swann, 2010). Wound photography is utilised for the assessment and mapping the wounds over time. With the increase in available technology, clinical photography is no longer the role of the specialist photographer and these guidelines provide assistance to the unskilled photographer to achieve clear, crisp wound images that show the location and characteristics of the wound. This information, when used in association with the medical and injury history, supports decision making for wound management. **WE**

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