Ten Top Tips...
Taking high-quality digital images of wounds

Author:
Beth Sperring

Author:
Ralph Baker

"Use a picture. It's worth a thousand words."

This adage was used in a newspaper article in 1911.[1] The statement is also applicable in wound care, as an image allows for assessment and mapping of a wound.

Clinical images potentially enhance the assessment of the patient, their wound and their environment.[2]

When providing care at a distance, via telehealth or telemedicine, 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 the patient 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 to evaluate the wound, plan treatment options and monitor progress.[3,4]

Attention should always be on the patient, ensuring that they are well informed, comfortable and aware of the processes.[5] Privacy must be maintained.[6]

Managing wound images and patient information involves issues of consent, confidentiality, privacy and security.[7] Images in this article are used with the written permission of the patient. 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.[8,9]

This article provides 10 top tips for the unskilled photographer[10,11] 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

The camera should have the following specifications:

- Simple to use – "point and shoot"
- SD memory card – at least 4GB, two cards will ensure sufficient memory
- Macro function (identified by the flower icon; *Figure 1*) – switches the camera into a close focus mode. This feature is present on most compact digital cameras

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.

2 SET THE TIME AND DATE ON THE CAMERA

This is important as the camera records the date of an image, which is the date shown in any database system used to store images.

3 GET THE LIGHT RIGHT

Ensure the camera flash is set to "on"– not "auto" or "off" [*Figure 2*].

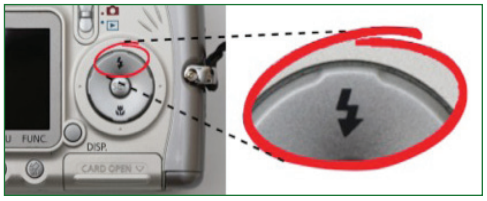


Figure 2. The flash function should be set to "auto".

Author details
Beth Sperring is Acting Clinical Nurse Consultant, Plastic Surgery Telehealth Service and Ralph Baker is Coordinator of Medical Illustration. Both are based at the Royal Perth Hospital, Perth, Western Australia, Australia.

"Wound images provide a visual reference, not matched by memory or the written word."

4 TAKE THE FIRST PHOTOGRAPH OF PATIENT DATA

The first photograph should display 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*].

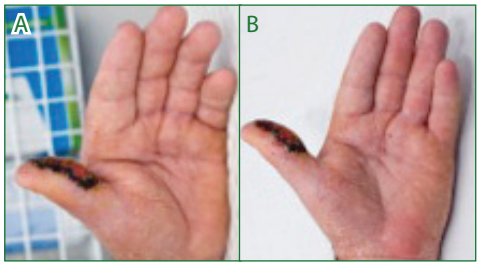


Figure 3. [A] Do not photograph the wounds with clutter in the background. [B] A white drape should be placed behind the wound to allow clear visualisation.

6 STANDARDISE THE VIEWS TAKEN OF THE WOUND

Check any previous photographs taken of that wound 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

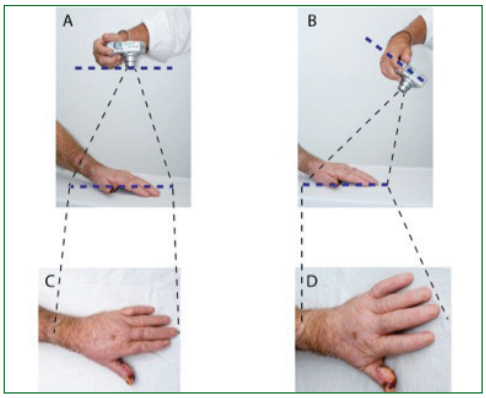
When taking a photograph, ensure the camera body is parallel to the subject [*Figure 4A*]. This results in a photograph that presents accurate proportions of the subject [*Figure 4C*]. If the camera body is not parallel to the subject [*Figure 4B*], the proportions of the subject will be distorted [*Figure 4D*], making 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.

9 CLOSE-UP IMAGES ESTABLISH DETAIL FOR THE VIEWER

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.



Take a close up photograph using the macro setting (as described in top tip 1; *Figure 1*). Place a ruler near the wound to give an accurate indication of wound size [*Figure 5*].

An L-shaped ruler is preferred, however, a standard ruler also works well. Check that the photograph is in focus on the screen before leaving the patient; blurred photographs should be discarded as they can be misleading.

Figure 5. A close-up image including scale.

10 SECURELY SAVE AND STORE THE IMAGES

Upload the images 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.[12] These simple guidelines will assist the unskilled photographer to achieve clear, crisp wound images. The use of a digital camera facilitates the taking and storing of images for an improved diagnosis and treatment, when care at a distance is necessary. ■

REFERENCES

1. The Phrase Finder. Available at: http://bit.ly/1gIMtYV (accessed 04.02.14)
2. Buckley KM, Adelson LK, Agazio JG (2009) Reducing the risks of wound consultation: adding digital images to verbal reports. *J Wound Ostomy Continence Nurs* 36(2): 163–70
3. Sperring B (2013) Using telehealth and photography for wound assessment in Western Australia. *Wounds International* 4(4): 8–11
4. Sikka N, Pirri M, Carlin KN et al (2012) The use of mobile phone cameras in guiding treatment decisions for laceration care. *Telemed J E Health* 18(7): 554–7
5. Creighton S, Alderson J, Brown S, Minto CL (2012) Medical photography: ethics, consent and the intersex patient. *BJU Int* 89(1): 67–72
6. Burns K, Belton S (2012) Click first, care second" photography. *Med J Aust* 197(5): 265
7. Routsalainen P (2010) Privacy and security in teleradiology. *Eur J Radiol* 73(1): 31–5
8. Fernando J (2013) mHEALTH - snoops out! *Pulse+IT Magazine* [20 May]: 36–7
9. Garg V, Brewer J (2011) Telemedicine security: a systematic review. *J Diabetes Sci Technol* 5(3): 768–77
10. Prentice J, Baker R (2013) *Digital Photography in Wound Management*. Department of Health, Perth
11. Rennert R, Golinko M, Kaplan D et al (2009) Standardization of wound photography using the Wound Electronic Medical Record. *Adv Skin Wound Care* 22(1): 32–8
12. Swann G (2010) Photography in wound care. *Nurs Times* 96(45): 9