# DIGITAL WOUND PHOTOGRAPHY

Darcie Anderson RN BSN IIWCC Clinical Nurse Educator Rural Home Care Saskatoon Health Region - Saskatchewan

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### Learning Objectives



understand the policies and procedures for wound photography



use a digital camera correctly



observe protocols for protecting client confidentiality



practice infection control techniques

## Implications of wound photography for clinical practice

- useful adjunct to documentation
- realistically shows wound healing over the course of treatment
- cost effective communication tool
- adds professionalism and legitimacy
- enhanced assessments
- improved client outcomes and satisfaction
- research and educational purposes

### Digital photography policy

This educational module is based on generally accepted policies and procedures.

Home care departments will continue to follow locally specific policies until a standardized provincial policy has been developed.

Inform yourself about the policies that apply in your area regarding privacy, equipment, emailing, etc. and adjust to these practices if required.

A Sample Wound Photography Policy and Procedures Manual is available on the training web site under Resources.

### Camera and equipment

- Minimum 3+ megapixels (MP)
- Camera features
  - Auto focus
  - Macro setting (for close up work)
  - Optical zoom (3X or greater)
  - Ability to adjust exposure
- Memory card
- Colour photo printer
- Hard storage/ carrying case (for infection control)

### Mobile Devices

- Could I use my PERSONAL mobile device (i.e. cell phone or tablet)?
   A personal device should NEVER be used for client's PHI and providers put themselves at security and confidentiality risks
- Could I use my WORK mobile device if it is password-protected and encrypted?
  - The principles of HIPAA require any system used to transmit PHI to limit its access, safeguard its integrity, and protect against unauthorized access. The work mobile device must meet all of these requirements, follow regional P&Ps, & photos must be permanently deleted. Mobile devices have inherent security and confidentiality risks!
- A physician requests that photos are communicated to them via text messaging – may pictures be sent via text?
  - At this point it is not recommended but, if you are using a WORK mobile device that meets the criteria as noted above, do this with caution. Texting of PHI can lead to violations of HIPAA if PHI is not properly safeguarded consult with your ITS department.

### What kind of digital camera?



This D-SLR has 12.9 MP & interchangeable digital lens

This Point & Shoot has 16 MP & 7x optical zoom ■



### Different cameras, different photos





- Different cameras have different flash colour or temperature
- Produces variance in colour, picture resolution, and clarity
- Use the same camera for consistency in sequential photos.

### Frequency of photos

#### When to take photos:

- On admission or initial consult
- Significant change in wound
- At regular re-assessments
- Undergone surgical procedure
- At wound closure

Healable wound: Every 1 – 2 weeks until wound is closed

Maintenance or nonhealable wound: Every 2 to 4 weeks

### **Procedures**

- Privacy & confidentiality
- 2. Client positioning
- 3. Photo identifiers
- 4. Light, focus, background, etc.
- 5. Camera positioning

- 6. Number of photos required
- Evaluation & documentation
- 8. Download & storage
- 9. Emailing
- 10. Printing & labelling
- 11. Infection control

### 1. Privacy & Confidentiality

#### **Never:**

- use a mobile cell phone
- include a client's face
- include distinguishing environmental items
- include distinguishing characteristics such as birthmark, tattoo or jewellery
- alter a photo by adding, removing, adjusting or moving anything

#### Always:

- inform client about purpose of photos and how they will be used
- obtain consent before taking photos (document with notes on file or media consent form)
- transfer photos from camera to password-protected, secure hard drive & delete from camera/USB/card
- keep printed photos in the client's file

### Informed consent

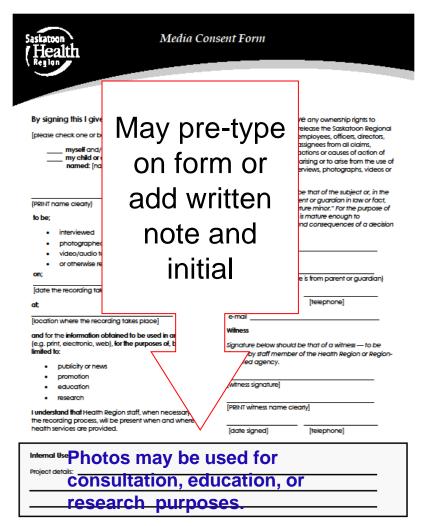
So what should you inform the client of?

- Photos will be part of the medical chart.
- Privacy and confidentiality will be maintained
- De-identified photos may be used for educational or teaching purposes
- Photos may be shared for consultation purposes with specialists, wound resource nurse, etc.

If photos are taken of a client's home environment, for any reason, be sure to explain why and with client's permission.

#### Consent forms

- Verbal consent (document on file) is sufficient for clinical purposes
- A consent form is the gold standard
- It is good practice to use a media consent form to get permission to use photos for anything outside of clinical care (even if photos will be de-identified for educational purposes).



Source: Communications

Healthiest people - Healthiest communities - Exceptional service

© 2010, Saskatoon Health Region

### Consent forms

- A consent form does not give permission to violate a client's privacy.
- Even if a client gives consent to email or fax photos, he/she does so with the full expectation that the nurse is taking steps to protect privacy
- With or without a consent form on file, be sure to follow regional/local policies for safe storage and sharing of photos

### 2. Client Positioning

- Explain the procedure
- Ensure that the client is in a comfortable position
- If this is the first photo, consider a location, lighting and position that will be easy to reproduce
- If this is a consecutive photo, review past photos and try to use the same position as previous photos
- Maintain client dignity and privacy
- Assistance hands within photo must wear gloves!

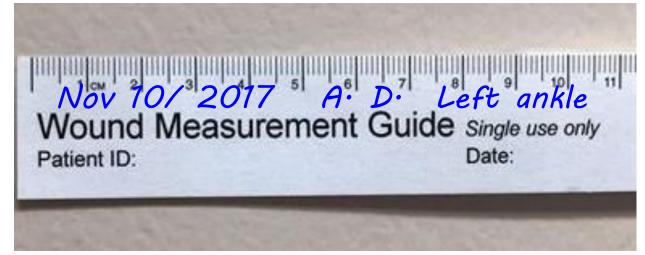
### 3. Photo Identifiers

Anatomical location of wound

Use a disposable measuring device – many wound care product companies will provide.

#### Label should include:

- Client initials
- Date of photo session
- Time (optional)



#### Where to write the info?

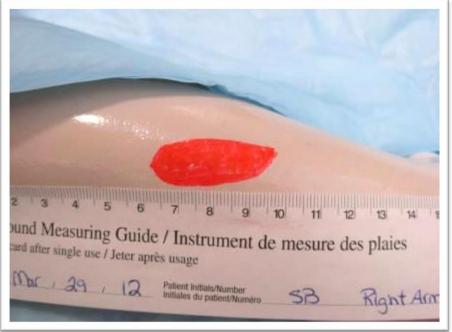
#### **CORRECT:**

Write close to the edge so you can get all the information within the close-up photo.



#### INCORRECT

If you write at the bottom, you will need too far away to get all the information in the shot.



### 4. Light, Focus, Background, etc.

#### **Focus**

 For auto focus cameras, hold the shutter button half way to allow camera to focus

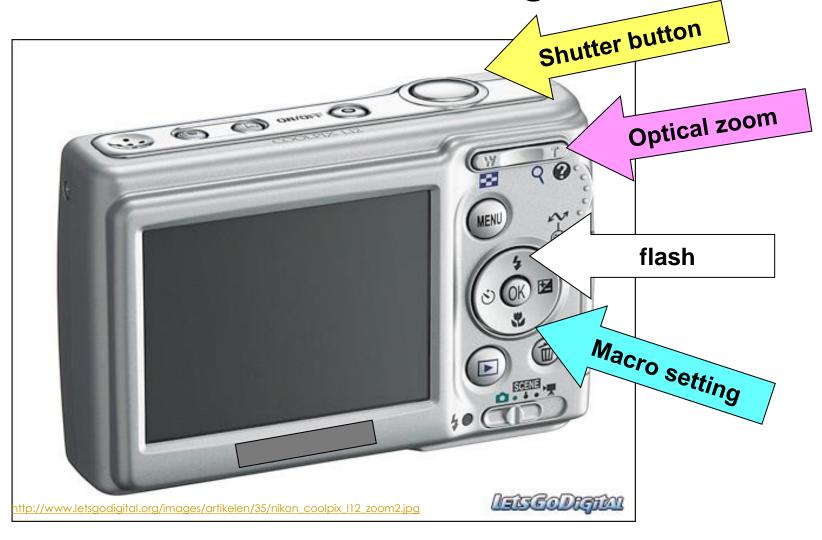
#### Macro setting



- Use the macro setting for close-ups
- The 'flower symbol' on a camera is the macro symbol.
- Adjust the optical zoom and distance so that the marked lines of the measuring rule are clear and crisp

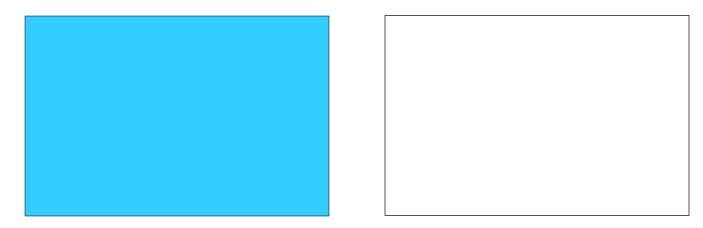
It takes practice & familiarity to get the best results.

Know the camera settings



### Background

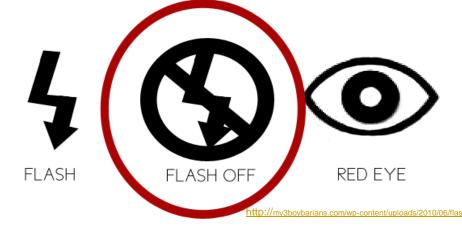
- non-reflective
- medium blue or white preferred (i.e. disposable blue pad)
- consistency use the same background in original and subsequent photos
- remove clutter in the background
- avoid client identifying indicators



### Lighting

- even lighting
- fluorescent daylight or full spectrum bulb
- a flash is usually not required
- or diffuse the flash to improve image quality
- try different ways of lighting but be sure to record the method you used so that it can be replicated in future.

This module recommends taking wound photos without flash.



With flash: note that glare from the moist surfaces of the wound may obscure essential detail

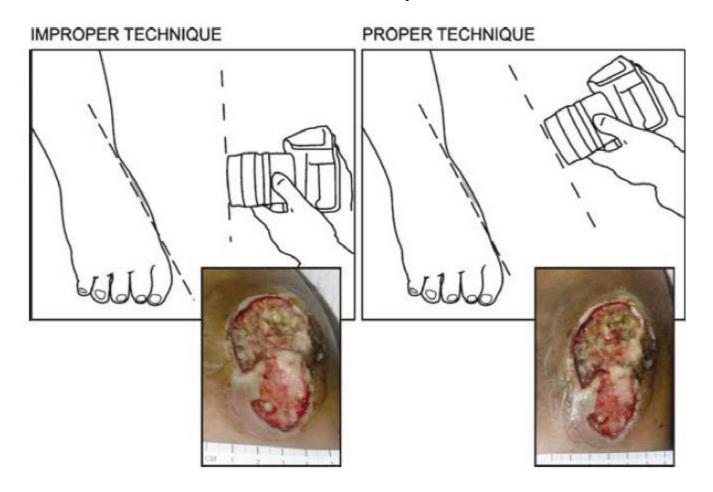
This is the same wound, same camera, same angle -- without the flash





### 5. Camera positioning

The planes of the wound should be parallel to the camera lens.



Angle makes a difference: Note that the picture taken at a 60 degree angle looks smaller and narrower.

Camera held at 90° angle (camera lens is parallel to plane of wound)



#### Camera held ~ 60° angle



#### Measuring device should be on same plane as the wound

#### **INCORRECT**



#### **CORRECT**



### Prevent blurred photos

- maintain a stable stance
- feet shoulder-width apart
- Keep elbows tucked into your sides to prevent unnecessary camera shake.
- It is good practice to make sure the 'vibration reduction' (or VR) setting is turned on

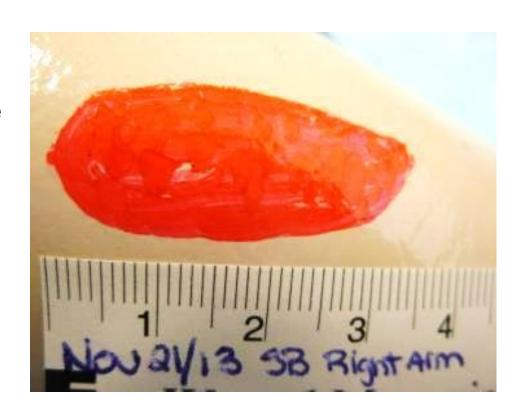
Don't allow the camera to come into contact with the client or surroundings

### 6. Number of photos

A minimum of **four photos** are recommended.

#### 1. Close-up shot

- hold the camera ~20 –
   30 cm from the wound base
- Use zoom to adjust detail
- Composition = 90% wound/ reddened periwound, 10% clear, intact periwound
- The close-up reveals wound detail and clearly shows the measuring device with the label information.



#### 2. Midway shot

- Composition = 4-6 cm of the periwound, as well as the measuring device
- The midway shot reveals some detail of the periwound and the wound



## 3. Distance shot with measuring device

- Establishes anatomical location
- Reveals the entire extremity, including a large area of intact healthy tissue
- Allows for comparison of limbs
- May capture conditions not visible in the close-up or midway shot.



# 4. Distance shot without measuring device

- ensures nothing is hidden
- Option to leave the measuring device in the frame of the photo



#### Example #1 of Recommended 4 Minimum Shots









Example #2 of Recommended 4 Minimum Shots



Photos property of SHR

### Optional photos as needed

Close-up from previous slide: periwound partially covered by measuring device

5th shot: Close-up with no measuring device





Property of SHR

Or other photos of wound or environment i.e. soiled dressing, footwear, W/C, mattress, etc.

### Taking photos with tunneling

 Use a sterile Q-tip or foam-tipped measuring device to show angle, position, and depth of tunnels or undermining



### 7. Evaluation & Documentation

- Evaluate and review all photos before putting away the camera
- If you are unsure if a photo is clear, take another one
- Photos do not replace written narrative -- Document wound size and characteristics on the wound record (NISS WR 145.0 or equivalent) and care plan
- Be sure to note that photos were taken

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### Procura Wound Flow Sheet

- Consider using the electronic wound flow sheet in Procura to document wound characteristics and measurements
- Wound photo is attached to each weekly assessment
- Allows for a weekly assessment report (with photo) which may be shared in print or attached to secure email
- Allows for easy comparison of photos over time









## Document details of photography

In a common communication area make note of any details that will allow another clinician to duplicate subsequent photos.

- Position
- Angle
- Distance
- Settings (i.e. alternate light source)
- Camera (if there are several cameras in same agency)
- Other pertinent information (i.e. "client unable to lie on side for photo" or "use lamp from bedroom")

This will result in consistent, comparable serial photos.

## 8. Downloading & Secure Storage

- Store photos in clients' wound flow sheets in Procura, or create a folder specifically for photos on the home care secure server
- Restrict folder access to home care nurses, home care manager, clinical educator, and admin assist
- Upload photographs from the camera to the computer (via a USB cord or the camera's memory card inserted into the computer)
- Store photo files in JPEG format, small size (under 500 KB)
- Re-format the memory card (after it is reinserted into the camera) immediately after downloading photos

## File naming on Secured Server

Pick a naming convention and follow it consistently. For example:

- 1. Create a folder: Wound Care Photos CONFIDENTIAL
- 2. Add subfolders as required: for example, Wadena Base.
- 3. Create subfolders in the **client name** (Last name, initials)
- 4. In the client subfolder add the photos naming each individual photo with the date of session (YYYY.MM.DD), client initials, and number of photo (this will keep the photos filed in a sequential order)

The file path for a photo might look like this: \Wound Care Photos – CONFIDENTIAL\Wadena Base\ Anderson,DJ\2018.12.31-AD-01

### Procura Wound Flow Sheet

- To store photos in Procura, open the client's wound flow sheet and upload photos from camera, memory card or computer file.
- No file naming is required the photos are stored within the client file and date of exam.



## 9. Emailing Photos

- Sharing photos with the care team and consultants by email attachment is usually acceptable on an internal server (ie @saskhealthauthority.ca)
- When physicians and consultants have external email addresses (hotmail, gmail, sasktel, etc) follow policy for emailing personal health information
- A signed consent form can show that the client was informed and agreed that external email will be used

## Sample Email Consent



Photos become part of the medical file. Photos may be used for consultation purposes within Saskatoon Health Region (SHR). Consultation via Email may also be externally used to <a href="mailto:com/problements-state-s

The "Patient Email Communications Question & Answer Fact Sheet" was reviewed. (SHR - April, 2012)

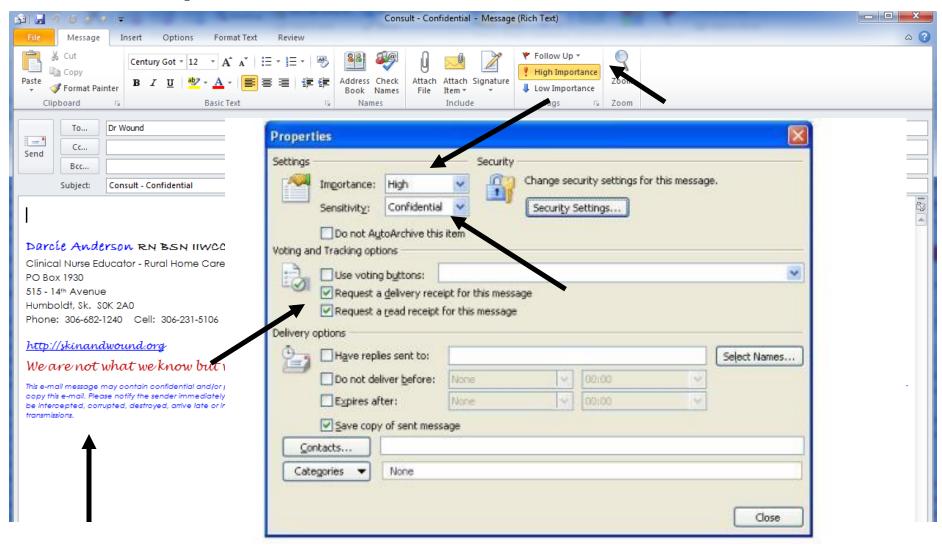
When <u>external email</u> use is anticipated - add written note and initial in Project Details section (or may be pre-typed on form):

education	[witness signature]		
<ul> <li>research</li> </ul>			
I understand that Health Region staff, when necessary for the recording process, will be present when and where	[PRINT witness name clearly]		
health services are provided.	[date signed]	[telephone]	

### How to Email PHI

- Use the confidential flag &/or type "CONFIDENTIAL" in the subject line (but avoid using "PHI" in subject line)
- Use the confidentiality disclaimer
- Principle of minimalism only include the minimum amount of PHI required
- Option to send PHI as an encrypted or passwordprotected attachment (\*do not send the associated password via email though)

## Example MS Office 2010



## 10. Printing & Labelling

#### Printing:

Photos may be printed for the client's chart prn

#### Labelling:

 All hard copy PHI media needs to be labelled as "CONFIDENTIAL"

## 11. Infection Control

- Place camera with carrying case in a clean area away from client/wound
- 2. Perform hand hygiene & put on gloves
- 3. Remove wound dressing, cleanse wound, position & drape client, place prepared labelling device next to wound.
- 4. Remove gloves. Perform hand hygiene.
- 5. Remove camera from case.
- 6. Take all required photos.
- 7. Return camera back into carrying case in the clean area.
- 8. Perform hand hygiene & put on new clean gloves.
- 9. Re-dress the wound per protocol.

Use gloves
for wound
care (before
and after
taking photos)
Do not use
gloves when
handling the
camera

## Keeping the camera clean

- Use a hard, non-porous camera case
- When not in use, keep camera on a clean surface away from the client & wound.
- Prepare the camera settings and keep it open for when you are ready to take photos.
- Hand hygiene is performed before using camera & the camera does not come into contact with the environment so there is no need to clean the camera before putting it back in the case.
- When finished, wipe the exterior of the case with a disinfectant wipe.

Ensure the camera does not come into contact with the client.

## Other benefits of wound photography

# Helps to enlist the client in healing.

In this example, the client didn't 'see' why nursing was concerned about these pressure injuries. After viewing the pictures, and seeing the extent of the wounds, the client immediately enlisted into the plan of care & had ongoing interest in the progression towards wound healing!



Provides the wound clinician and the client with a sense of accomplishment!





## Conclusion

Written documentation enhanced with high-quality wound photos is unparalleled in its usefulness to provide a baseline record, as well as to track wound progression or regression. (Rodd-Nielsen and Ketchen)

#### Appropriate and safe use of this technology requires:

- the right equipment
- knowledge & skills
- policy & procedures to support this practice



#### POCKET TOOL -- WOUND PHOTOGRAPHY DETAILED PROCEDURE

#### Supplies needed:

- Wound care supplies as required
- Disposable blue pad(s) (for background)
- Disposable measuring device labelled with client identifiers (initials, PHN), date and anatomical location.
- Approved device (i.e. point and shoot camera with memory card). Ensure it is charged.
- · Hard carrying case for device
- Hand hygiene supplies
- Non-sterile gloves

#### Before photographing wound:

- Obtain consent (verbal or consent form)
- View previous photos if possible and notes specific to the client. Use same:
  - o camera
  - client position
  - background, lighting
  - additional photos

#### After photographing & re-dressing wound:

- Document wound assessment and photographs taken
- Upload photographs from the device to the secured drive on computer
- Save photo files using a consistent process for file & folder naming
- Delete images from the device (format memory card)
- · Store the device in a secure area

#### STEPS:

- Place device case on hard, clean surface.
- 2. Position client, maintaining comfort, privacy and confidentiality.
- 3. Perform hand hygiene. Don gloves, remove dressing, and cleanse wound as per protocol.
- Place blue disposable pad in the background of the wound. Remove items that could distract or impede view of wound.
- 5. Place measuring device close to wound edge on same plane as would
- 6. Remove gloves and perform hand hygiene before handling device.
- 7. Turn device on and check settings (i.e. macro setting on, VR on, etc.
- 8. Take photos, avoiding device contact with client and surroundings
  - o Close-up: 90% wound/reddened periwound, 10% intact periwound
  - o Midway: some wound detail and 4-6cm clear intact periwound
  - Distance with measuring device: anatomical location, intact healthy tis and/or comparison of limbs
  - o Distance without measuring device on the skin
- 9. Review photos. Delete blurry photos and retake as necessary.
- 10. Turn off device and return to carrying case. Wipe outside of case.
- 11. Perform hand hygiene.
- 12. Don gloves, provide wound care and redress wound as per protocol

#### Resources

See the Resources section on the right side of the training pages to download these documents:

Sample Wound Photography Policies & Procedures

Pocket Tool – Wound Photography Detailed Procedures

## References

- Bloemen, E.M., Rosen, T., Cline Schiroo, J.A., et al. Photographing Injuries in the Acute Care Setting: Development and Evaluation of a Standardized Protocol for Research, Forensics, and Clinical Practice. Acad Emerg Med. 2016 May:23(5):653-9.
- Buckley, K.M., Adelson, L.K., Agazio, J.G. Reducing the Risks of Wound Consultation. Wound, Ostomy and Continence Nurses Society. March/April 2009;36(2):163-170.
- Buckley, K.M., Adelson, L.K., Hess, C.T. Get the picture! Developing a wound photography competency for home care nurses. Journal of Wound, Ostomy and Continence Nursing. 2005; 32(3):171-177.
- Bradshaw, L.M., Gergar, M.E., Holko, G.A. Collaboration in Wound Photography Competency Development: A Unique Approach. Advances in Skin & Wound Care. 2011;24:85-92; quiz 93-4.
- Bryant, R. and Nix, D. (2012). Acute & Chronic Wounds. Current Management Concepts. 4th Edition. Elsevier Mosby. St. Louis, Missouri USA
- CAN HealthPRO. 2011. Photographic Wound Documentation: Digital imaging guidelines help minimize exposure.. 2011 (Issue 2) Available at: <a href="http://www.cna.com/vcm\_content/CNA/internet/Static%20File%20for%20Download/Risk%20Control/Medical%20Services/PhotographicWoundDocumentation-DigitalImagingGuidelines.pdf">http://www.cna.com/vcm\_content/CNA/internet/Static%20File%20for%20Download/Risk%20Control/Medical%20Services/PhotographicWoundDocumentation-DigitalImagingGuidelines.pdf</a>.
- Davis, A., Nishimura, J., Seton, J., et al. Repeatability and clinical utility in stereophotogrammetric measurements of wounds. Journal of Wound Care. February 2013;22(2):90-97.
- Dufrene, C. Photography as an Adjunct in Pressure Ulcer Documentation. Critical Care Nursing Quarterly. 2009;32(2): 77-80.
- Forensics, and Clinical Practice. Acad Emerg Med. 2016 May;23(5):653-9.
- Government of Saskatchewan. Local Authority Freedom of Information and Protection of Privacy: Chapter L-27.1 Reg 1. (last amendment 2014). Available at: <a href="http://www.gp.gov.sk.ca/documents/English/Regulations/Regulations/L27-1R1.pdf">http://www.gp.gov.sk.ca/documents/English/Regulations/Regulations/Regulations/L27-1R1.pdf</a>. Accessed April, 2010; January 13, 2016; August 25, 2017.
- Guide to Good Practice Wound Management. Institute of Medical Illustrators. September 2012. Available at: http://www.imi.org.uk/file/download/4708/Wound Management Sep12.pdf
- Hampton, S., Kilroy-Findley, A. Taking photographs of wounds and data protection. Wounds UK. March 2016;12(1):40-44.
- Hampton, S., Kilroy-Findley, A. Top tips: taking photographs of wounds and data protection. Wounds International. December 2015;6(4):10-13.
- Health Information Protection Act (HIPA). Retrieved from: <a href="http://www.qp.gov.sk.ca/documents/english/Statutes/Statutes/H0-021.pdf">http://www.qp.gov.sk.ca/documents/english/Statutes/Statutes/H0-021.pdf</a>
- Langemo, D., Hanson, D., Anderson, J., Thompson, P., Hunter, S. Digital wound photography: points to practice. Advances in Skin & Wound Care. 2006; 19(7):386-387.
- National Pressure Ulcer Advisory Panel. FAQ: Photography for pressure ulcer documentation. National Pressure Ulcer Advisory Panel website. Available at: <a href="http://www.npuap.org/fag.htm">http://www.npuap.org/fag.htm</a>. Accessed January, 2011.
- O'Connell-Gifford, E. A Picture Can Be Worth a Thousand Words: The use of photo documentation in wound care. Improving Quality of Care Based on CMS Guidelines. *Healthy Skin*. Available at: <a href="http://www.scribd.com/doc/31886132/Healthy-Skin-Magazine-Volume-8-Issue-2">http://www.scribd.com/doc/31886132/Healthy-Skin-Magazine-Volume-8-Issue-2</a>. 2010;8(2):24-29, 108-109.
- Photography in Wound Documentation: Fact Sheet. Wound, Ostomy and Continence Nurses Society. 2012. Available at: http://c.ymcdn.com/sites/www.wocn.org/resource/resmgr/Publications/Photography\_in\_Wound\_Documen.pdf
- Rennert, R., Golinko, M., Kaplan, D., et al. Standardization of Wound Photography Using the Wound Electronic Medical Record. Advances in Skin & Wound Care. 2009;22(1):32-38.
- Rodd-Nielsen, E., Ketchen, R. (Spring 2014). Remote Wound Consultation Series Part 1: Clinical Digital Photography: Tips and Techniques For Community Nurses. Wound Care Canada. 2014; 12(1):14-24. Available at: <a href="http://mydigitalpublication.com/publication/?i=206722&p=14">http://mydigitalpublication.com/publication.com/publication/?i=206722&p=14</a>
- Rodd, E. and Hasham, S. (Spring 2015). Remote Wound Consultation Series Part 2: Considerations for Service Delivery And Policy Development. Wound Care Canada. 2015; 13(1): 18-28. Available at: <a href="http://mydigitalpublication.com/publication/?i=252001&p=18">http://mydigitalpublication.com/publication/?i=252001&p=18</a>
- Sibbald, G. Chronic Wound Care: 10 Pearls for Success! Available at: <a href="http://cawc.net/images/uploads/10">http://cawc.net/images/uploads/10</a> pearls of success.pdf
- Sperring, B., Baker, R. Ten Top Tips . . . Taking high-quality digital images of wounds. Wounds International. February 2014;5(1):7-8.
- Thompson, N., Gordey, L., Bowles, H., et al. Reliability and validity of the revised photographic wound assessment tool on digital images taken of various types of chronic wounds. Adv Skin Wound Care. 2013;26(8):360-73.

## Policies and Websites

- Government of Saskatchewan. Local Authority Freedom of Information and Protection of Privacy: Chapter L-27.1 Reg 1. (last amendment 2014). Available at:
   <a href="http://www.qp.gov.sk.ca/documents/English/Regulations/Regulations/L27-1R1.pdf">http://www.qp.gov.sk.ca/documents/English/Regulations/Regulations/L27-1R1.pdf</a>. Accessed April, 2010 and January 13, 2016.
- SHR policy: Emailing Personal Health Information. Policy # 7311-25-005: date effective Dec 5, 2011; Date Revised: March 4, 2015
- SHR policy: Information, Classification, Labelling, & Handling. Policy # 7311-75-010; date effective April 2, 2012; Date Revised: June 3, 2015
- Saskatoon Health Region. Media Consent form. Available at: <a href="http://infonet.sktnhr.ca/communications/Documents/Resources/Media-Consent-Form-2010.pdf">http://infonet.sktnhr.ca/communications/Documents/Resources/Media-Consent-Form-2010.pdf</a>. Accessed January, 2011.
- The Health Information Protection Act (HIPA). Retrieved from: <a href="http://www.qp.gov.sk.ca/documents/english/Statutes/Statutes/H0-021.pdf">http://www.qp.gov.sk.ca/documents/english/Statutes/Statutes/H0-021.pdf</a>
- http://img.medscape.com/pi/features/slideshow-slide/pressure-ulcer-causes/fig29.jpg
- http://www.imaging-resource.com/PRODS/D90/ZBEAUTY.JPG
- http://www.digicamreview.com/wp-content/uploads/2011/02/nikon-coolpix-s6100.jpg
- http://www.letsgodigital.org/images/artikelen/35/nikon\_coolpix\_l12\_zoom2.jpg