Clinical Photography in ED

Darmas Hardjo-Soekatmo
Advanced Trainee
Emergency Care Institute

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Introduction

- Common practice amongst Australian hospital clinicians
- Widespread availability of digital cameras
- Presence of digital cameras on electronic devices, especially smartphones
- Smartphone take up of 49% in Australian population in May 2012
Current practice

- 170 clinicians
- 48% have taken photographs
- 20% used a personal mobile phone
- Majority of clinicians photographed 1-5 times per year
- A minority of clinicians (including ED clinicians) photographed more frequently
- 62% obtained consent, mostly verbal
- 10% stored images on personal mobile phone

Barlow J. “Mobile phone use in Clinical Communication” SMACC presentation 2014
- 47 critical care doctors
- 51% have sent photographs from a mobile device
- 74% clinician had clinical photographs on a personal device
- 49% obtained explicit consent
Current practice

• Photographs are taken of patients, radiology and ECGs
• Used for
  • Primary
    • Documentation
    • Telehealth (images transmitted using mobile phones to on call doctor)
  • Secondary
    • Education
    • Research
    • Publication
Evidence

- Does camera phone photography improve patient care?
  - 2 studies involving patient images (2005, 2008)
    - Improves diagnostic accuracy
    - Avoids unnecessary transfer of patients
  - 5 studies involving radiology (2005-2013)
    - Findings mixed
    - Bedside ultrasound
    - X-rays
    - CT
What do patients think?


- Survey of 140 hand surgery patients
- 97% agreed that camera phone photography may improve accuracy of communication
- No patient disagreed with
  - sending a photograph of a wound or x-ray from the emergency department to the on-call hand specialist
  - use of clinical photographs in audit meetings and teaching
  - intraoperative photos taken to assist with planning of future treatment


Consent for use in confidential medical records, medical teaching and publication

<table>
<thead>
<tr>
<th>Consent Type</th>
<th>Number of Consents</th>
</tr>
</thead>
<tbody>
<tr>
<td>190 (92%) for use in confidential medical records, medical teaching and publication</td>
<td></td>
</tr>
<tr>
<td>15 (7%) for use in confidential medical records and medical teaching only</td>
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<tr>
<td>2 (1%) for use in confidential medical records only</td>
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<tr>
<td>Refusal of consent</td>
<td>7</td>
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</tbody>
</table>
Benefits

• Patients
  • Rapid access to specialist consultation and hence treatment
  • Patient comfort (no need for repeat removal of dressings)
  • Reduce need for repeat presentations for consultations, reducing travel time and cost
• Clinicians
  • Facilitates timely decision making and disposition
Issues

- Consent
- Confidentiality
- Image quality and authenticity
- Ownership and storage
Consent

- Wide variation in practice
- Is consent required when the photograph is taken for primary purposes only?
- If the patient is not identifiable, can the images be used for secondary purposes without explicit consent?
Confidentiality

- Use of personal devices
  - Lost/ stolen devices
- Transmission of images
  - Erroneous transmission
- Connectivity of smartphones
  - Facilitates sharing of images among large numbers of people
Image Quality and Authenticity

- Lighting
- Editing
  - Colour correction
  - Resizing
- Number of images
- Image file type (RAW, TIFF, JPEG)
- Interpretation of images
  - Colour
  - Dimensions
  - Depth
- Watermark
Ownership and Storage

• Who owns the photograph?
  • Institution where the photograph is taken
• Medical records should be retained for 7 years
• Image file type (RAW, TIFF, JPEG)
• Integration into EMR
  • Currently possible but cumbersome
  • Wound care photography project
  • Storage space
  • No user friendly way of uploading photographs into our current EMR from a smartphone at present
Smartphone Applications

- **PicSafe** [https://picsafe.com/](https://picsafe.com/)
  - $50 per clinician per year
  - Separate information silo
  - Cloud storage
    - Cross border
    - Security

- **Figure1** [https://figure1.com/](https://figure1.com/)
  - Similar to PicSafe
  - For education
  - For registered clinicians only

- **Current EMR software to portable devices**
- **Alternative EMR software**
What should guidelines incorporate?

• Documented informed consent (specify purpose for which photograph is taken)
• Photographs should be stored in secure central database
• Personal devices may be used but photographs should be deleted after use and storage