



# PICS Working Group Guidelines on photography

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## Foreword

The PICS Photography in Custody and SARCs Working Group is a multi-professional group that was established in October 2015. The guidelines cover salient features regarding photography that might test the custody or SARC practitioner. It is hoped that they will allow safe and best practice when photographing patients and this may assist in the criminal justice system. The initial PICS guidelines were published in May 2017 and provided an outline on suggested best practice when photographing patients in the custody or SARC (Sexual Assault Referral Centre) environment. An update on these guidelines was issued in December 2019. These recommendations do not cover colposcopy.

These revised guidelines for 2024 are predominantly intended for healthcare professionals (HCPs) who work in police custody and SARCs. As independent practitioners, custody and SARC HCPs face technical, ethical and legal issues beyond those usually faced by clinicians in more conventional settings. In addition, data protection regulations have been tightened in recent years across Europe alongside the exponential development of social media and technology in every avenue of modern life. Pitfalls surround us in all directions, both clinically and personally.

It should also be emphasised that training clinicians in the art of photography is not intended to undermine or displace SOCO/CSI (Scene of Crime Officer/Crime Scene Investigation) units or medical/clinical photographers, whose role is one of evidence preservation, integrity, recovery and recording. The guidelines are designed to help raise standards of HCPs who document injuries as part of their daily repertoire. They outline the basic principles of medical photography and do not consider more advanced techniques such as alternative light sources (e.g. infra-red and ultra-violet) or cross-polarisation techniques, which might enhance the appearance of injuries.

NB: injuries are usually more easily visible on lighter skin than darker skin. This has been borne in mind for illustrative purposes in this document.

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Declaration of interest: the lead author runs a medical photography course for clinicians: 'Patient Focused!'

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## 1. Key points

It is advisable that the clinician should complete an approved course in clinical photography prior to undertaking photo-documentation in the custody or SARC environments.

Prior to photographing patients, there should be a local policy in place outlining the best practice in the photography of patients.

- Photo-documentation of injuries by clinicians can offer great potential benefit to assist patients and the criminal justice system, enhancing and reinforcing written descriptions and hand-drawn body diagrams. The alleged mechanism of injuries must be documented.
- The camera system should be dedicated specifically to such work. A digital SLR (Single Lens Reflex) camera represents the gold standard, though other camera systems (e.g. compact and bridge cameras) may be acceptable. Personal cameras and smartphones should be avoided wherever possible and should only be used as a 'last resort' in emergency situations as they may create problems surrounding information governance and audit trails, the photographs may be deemed inadmissible, and the equipment may also be seized as part of an on-going police investigation. Cameras on mobile phone and tablets often have shorter focal lengths which may result in unrecognised lens distortion.
- The camera should be stored securely at all times. Its internal clock should be adjusted in line with the custody or SARC clock.
- Consent should be obtained, either orally or written, for photo-documentation of injuries. If the patient lacks capacity, photography may be conducted with consent from a person with parental responsibility (in the case of a child) or on the basis of best interests of the patient or of public interest. An audit trail of the integrity of the images should be established thereafter.
- There is no need to embed date and time into the images. If the issue of timing of photography becomes critical, this information is already stored in the images' metadata.
- Consideration should always be given to the need for a chaperone, and professional guidelines and local policies should be consulted in this regard.
- Practice shots prior to the patient entering the medical room may help the clinician decide on camera settings for different lighting and room size.
- The clinician should aim for a fast shutter speed, low ISO and mid-high f-value.
- Whenever possible, background 'clutter' should be moved away from the subject. Background sheeting may be employed to allow for a clear backdrop.
- Each injury should be taken with the camera plane at 90° to the skin, to reduce 'angular distortion' of dimensions.
- A 'three photo principle' of location-photo, close-up with scales, and close-up without scales should be employed with each injury.
- Images should be checked as they are being taken, and repeated if required. In particular, the clinician should check for over and under-exposure, blurring and injury 'cut-off'. Images should not be deleted if they are 'bad' photos.
- If the wound is bloody or dirty, 'before and after' photos should be taken whenever possible, provided consideration is given beforehand to the need for involvement of CSI/SOCO for swabbing, blood spatter analysis, evidence gathering etc. Health and safety policies and procedures should be adhered to.
- It is good practice to record, in the patient's medical notes, the first and last image numbers of the photos taken. This helps identify the images as belonging to a particular patient, which may be particularly important when photographing several patients in quick succession. 'Head shots' may also be considered, though 'Identifier cards' are preferred with intimate images.
- The images should be uploaded onto a password-protected secure system, e.g. Cloud system or hard drive as soon as possible. These images are designated the Master Copy. A Working Copy should also be created.
- Unadulterated copies of the Working Copies should be submitted to the Courts, with a full audit trail of the images being available, if requested. Any alteration of images such as cropping, lightening and contrast enhancement is acceptable, but should be explained at the time of submission of the images and should accompany an original version of the Working Copy.
- Once the images have been loaded onto a secure system, the SD or Compact Flash card can be formatted.
- Legislation surrounding the handling of images should be adhered to.



## 2. Introduction

Despite the rapid evolution and adoption of digital technology in mainstream society, there has been reluctance by many practitioners to use digital cameras to document clinical findings such as injuries. However, photographic images can be immensely valuable in supplementing written descriptions and hand-drawn body diagrams of injuries, and when properly taken, will assist in the justice process.

The Photography In Custody and SARCs (PICS) working group was established by the Faculty of Forensic & Legal Medicine in 2015 to provide guidelines on clinical photography for those clinicians who work within the police custody and SARC (Sexual Assault Referral Centre) environments. It is a multi-professional group, with expertise in clinical forensic medicine, photography, legislation and the care of victims of torture. This document builds on previous work from the National Policing Improvement Agency (dissolved in 2013 and replaced with the National Crime Agency, NCA), the Association of Chief Police Officers (replaced in 2015 by the National Police Chiefs' Council, NPCC) and Home Office Guidelines.<sup>1,2,3</sup>

PICS intends that these guidelines will assist in achieving safe and best practice. Consideration is given to the issues of equipment, technique, legal and ethical issues and training in clinical photography. The guidelines will be subject to regular revision as and when dictated by case law, changes in statute, changes in practice and technological developments.

## 3. Considerations before photography

### 3.1 Camera, smartphone or tablet?

PICS advises that the camera that is used for documentation of injuries should be dedicated to such a purpose, thereby avoiding the danger of mixing business with pleasure. Indeed, a review by Chandawarkar (2021) demonstrated that, in one study, 73% of clinicians stored patient photos with personal photos, and that 26% of clinicians had accidentally shown patient photos to family or friends.<sup>4</sup>

A digital SLR (Single Lens Reflex) camera is arguably the best option for taking high-quality images. These cameras have changeable lens systems and tend to have more capabilities than compact cameras, bridge cameras, mobile phones or tablets. However, as SLRs are technically more difficult to master than simpler alternatives, the clinician must possess the technical know-how for using such cameras, to avoid badly-taken photographs on an expensive piece of equipment. Moreover, SLRs tend to be bulkier and more expensive than their counterparts and this has to be borne in mind if purchasing a new system. Compact and bridge cameras have the distinct advantage of being technically

straightforward, easier to learn to use and usually cheaper to purchase, but the quality of images is arguably poorer.

On rare occasions, (e.g. where the first-line camera is not working) there may be no alternative but to use a personal mobile phone or camera. Such situations arose during Covid lockdowns, and NHS England/RCGP allowed clinicians greater use of personal equipment. This July 2020<sup>5</sup> document was due to be reviewed 12 months after publication, but as of January 2024, this had still not occurred. The clinician and patient should accept that, in such a scenario, there may be issues further down the line in proving the validity of the audit trail from the taking, storage and submission of those images and that the clinician may be forced to submit the phone or camera as part of the investigation.<sup>2, p14</sup> The clinician would also have to be able to justify the use of such personal equipment and storage of patients' images. Additionally, cameras on mobile phones and tablets tend to have short focal lengths (e.g. 30 – 50 mm equivalent) and this can produce distortion of sizes in forensic and clinical photography.

The new range of Mirrorless SLR cameras are a relatively new development and offer a good compromise between smartphones and digital SLRs. They are lighter in weight and less bulky than digital SLRs as they lack the prism/mirror mechanism, but they tend to have larger sensors than smartphones. They have a 'traditional' camera appearance which looks more authentic in clinical situations. Even using a 'work' smartphone could cause resentment from the patient who may regard the clinician as using their personal smartphone. In addition, with increasing numbers of crimes being videoed by the perpetrators, photographing a patient with a smartphone may lead to distress by causing the patient to re-live the assault.

It is of interest that NHS Digital and the National Cybersecurity Centre have accepted that many hospitals and health facilities offer a BYOD (Bring Your Own Device) or BYOX (Bring Your Own Everything) policy<sup>6</sup>: this means that the individual clinicians can use their personal devices at work, in line with locally-agreed policies. It could be argued that such policies are at high-risk of data and security breaches and are merely passing information governance responsibilities from the organisation onto the clinician.

The camera should be stored securely, preferably under lock and key when not in use. It should not be stored in the clinician's car: aside from the obvious security concerns with leaving a camera in a vehicle, condensation may appear on the camera by the following morning, especially if the temperature has dropped overnight. Moisture is disastrous for the camera's mechanisms and may result in internal damage to the camera and images.



It is good practice to have the charger stored in the same location as the camera. Rechargeable batteries are preferable to single-use batteries and are economically superior. A 'battery grip' (Fig. 1) is a relatively inexpensive piece of equipment that is available for digital SLRs. It inserts into the base of the camera and allows the system to work from two separate rechargeable batteries, rather than just the one. If the camera uses non-rechargeable batteries, it is worth investing in a spare set of batteries for emergency situations.



Fig. 1 A battery grip allows for an extra battery to be stored.

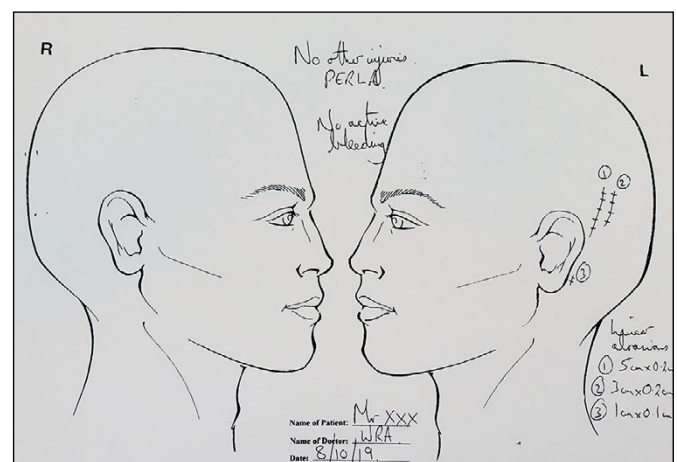
As different clocks often show different times, it is advisable to adjust the camera's clock in line with the custody or SARC clock, so that the electronic log is consistent with the times stored in the camera's images. There is no need to embed the date and time into the photos (the 'date stamp') as they can be distracting and they might obscure a significant feature in the image. If the timing of the photos becomes an issue, the data can be easily inspected in the photos' metadata (the 'hidden' data contained within the electronic photo file), although PICS accepts that metadata can be altered.

Many digital cameras will not automatically alter their clocks for British Summer Time, and the clinician may therefore have to manually alter the camera's clock twice per year. Failure to do so could potentially prove embarrassing in statements and reports, and the clinician would have to account for the one hour discrepancy between the electronic log and the time that the photo was taken.


The clinician must appreciate that, if the camera is mislaid, so are the images. Therefore, images should be downloaded onto a secure system as soon as it is practically possible. Remember that accidental pressing of 'Delete' or 'Format' may also result in loss of some or all of the images. (Storage of images will be discussed on page 13).

### 3.2 Body diagrams

The image and information from a digital camera is far superior to the sketch outlined on a traditional body diagram (Fig. 2.), which largely tests the clinician's artistic abilities, not their clinical acumen. However, body diagrams can still play a significant role in documentation, as they allow written descriptions and can help demonstrate the distribution and clusters of injuries. Moreover, an area of tenderness may not be visible to a digital camera using standard light sources, or the patient might refuse photography but will agree to body diagrams.



**Body Photographs (Exhibit WRA/XXX/1)**



**Photograph A:** demonstrating the rear of Mr XXX's head and neck, viewed from the left side.

There were three linear abrasions ("scratches") to the area behind the left ear and the adjacent scalp. There was no active bleeding from any of the abrasions and there were no features of infection.



**Photograph B:** as per Photograph A, but in closer detail and with a linear scale in centimetres. There were two adjacent abrasions behind the left ear. The longer one measured 5.5cm x 0.2cm, and the shorter one measured approximately 3cm x 0.2cm. Immediately behind the left ear was an abrasion measuring approximately 1cm x 0.1cm.

The injuries were consistent with Mr XXX's account of having been struck to the back of his head with the straight edge of a pane of glass that shattered on impact. However, as with many injuries, other possibilities should be considered if relevant.

Signature: \_\_\_\_\_

Fig. 2 The same injuries described in two different ways. Traditional body diagram vs. photographic images embedded into an A4 document.



### 3.3 Medical room

The clinician should be familiar with the environment in which the images are to be taken. Most commonly, this will be a medical room, but the clinician should be prepared to photograph patients in police cells, hospital emergency departments, hospital wards and the ITU. Practice shots in different settings are useful prior to meeting the patient, even if the camera is in auto mode. Assessing the environment allows the clinician to calculate the best positioning of the patient, e.g. standing, sitting in a chair or lying on an examination couch. Once the patient is present, opportunities to re-arrange furniture and check camera settings are greatly reduced. Pre-planning ensures a smoother process.

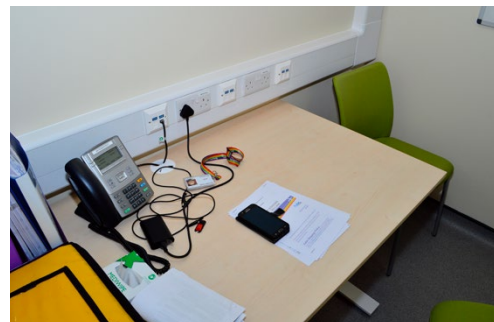
Medical rooms are often cluttered environments and lack the order and discipline seen in a photographic studio. Common culprits include the medical cabinet, sink, chairs, posters, printers and computer, all being disastrous for a clean photograph.



**Fig. 3** Remove clutter; choose between landscape and portrait; neutral expression.

Avoid clutter before pressing the shutter. Ensure that parts of the body are not ‘cut off’ and suggest a neutral facial expression. Moving the patient, the clutter or yourself can easily prevent chaos dominating your photographs. Ideally, the subject should be positioned approximately 2-3 feet from the background, as this will reduce harsh shadowing. (See Fig.3).

A clear space on a wall may offer a perfect clutter-free backdrop, but other options include the use of a small portable screen or using background sheeting that is stored and rolled-up until required (Fig. 4). (If the background sheeting is stored folded rather than rolled, undesirable square patterns will appear once the sheeting is unfolded). The sheeting should also be made of off-white or neutral grey matt plastic that does not reflect excessive light and that is easy to wipe clean between patients. If dealing with a patient where DNA cross-contamination is a concern, a disposable background such as a single-use couch cover would be a good option.



**Fig. 4** Background Sheeting



Paper towelling that is used to cover examination couches does not make a good background as it will tear and ruffle with the patient's weight, giving an undesirable appearance. (Fig. 5)

**Fig. 5** Background paper towelling



### 3.4 Lighting

One of the main limitations to good photography within a medical room is poor lighting: either too bright or too dark. A darkened room results in less light striking the camera's sensor, making for darker and grainier images, whereas excessive brightness causes whiteout. Techniques to brighten or darken the image include:

1. Alteration of the ISO. The ISO is an indicator of the camera's sensitivity. Raising the ISO makes the sensor more sensitive to light but, in doing so, the sensor also becomes more sensitive to artefact. With a high ISO, e.g. 6400, the final image appears more 'grainy', or 'noisy' with less resolution. A low ISO is desirable, e.g. ISO 400.
2. Altering the exposure time. By slowing the shutter speed, e.g. from 1/100 of a second to 1/60 of a second, more light enters the camera to strike the sensor. However, the camera has to be kept still for longer, to avoid camera shake and blurring of the image. A fast shutter speed is therefore desirable whenever possible, e.g. 1/100s-1/200s.
3. Altering the f-stop (or f-value): the f-stop is a measure of the camera's aperture, which sits in front of the camera's sensor and works like the iris-pupil in the eye. It can be automatically or manually altered to allow more or less light into the camera. A lower f-stop, e.g. f-2.8, means a larger aperture and therefore more light is allowed in, but the periphery of the image is more likely to appear blurred ('Bokeh effect.'). Conversely, a higher f-stop, e.g. f-22, means a smaller aperture with less light admitted, causing the image to appear darker. A mid-high f-stop is usually preferable for clinical photography, e.g. f-8 to f-11.

The photographer may perform a combination of each of these, and should be aware that altering one may have a knock-on effect on the other settings ('the exposure triangle').

Another option available to the photographer is to increase the ambient lighting. This can be achieved by using an additional light source such as a built-in or external flash, or by employing strategically-placed light reflectors or external light sources, such as a 'soft-box'. When dealing with detainees, the clinician should consider that such pieces of equipment could be attractive to volatile patients who may pay scant regard to an expensive piece of kit that can be used as a make-shift weapon. Bulky and costly equipment should be used with caution as it could easily be damaged or cause injury to the clinician in the wrong hands.

### 3.5 Consent

Generally speaking, it is not acceptable for a clinician to take photos of a patient without fully informed consent. This therefore differs from the entitlement of police officers in England and Wales who, under the Police and Criminal Act (PACE) 1984 (s.64a), can legally take photographs of individuals without consent and 'may use reasonable force,

if necessary, in the exercise of the power.'<sup>7</sup> In Northern Ireland, the photographing of suspects in police custody, with or without consent, is covered under Section 64a of *Police and Criminal Evidence (Northern Ireland) Order 1989 (SI 1989/1341)*<sup>8</sup> and in Scotland under *Section 18 of Criminal Procedure (Scotland) Act 1995*<sup>9</sup>

The General Medical Council (GMC) has outlined the requirement of consent in its document *Making and using visual and audio recordings of patients*.<sup>10</sup> They distinguish between photography as part of the on-going medical care, investigation or treatment, and photos taken for 'secondary purposes' (e.g. for teaching, research and audit), where there is no immediate gain by the patient.

The GMC's principal document on consent<sup>11</sup> was updated in Nov 2020 and emphasised the importance of working with patients and respecting their wishes. There is a fundamental requirement for the patient to understand the process rather than merely sign a consent form. Oral consent may be appropriate when taking photographs in the custody and SARC environments for those patients who have poor literacy and language skills, drug and alcohol dependencies, aggressive mood swings and behavioural issues. The signing of a consent form may be difficult and be met with suspicion and resentment. The act of handing a pen to an unpredictable and volatile patient may also pose a threat to the clinician.<sup>12</sup>

As detailed an explanation as possible should be given to the patient as to why the photos are being taken, as well as clarifying how and where they will be used, stored and viewed, and by whom. When written consent is being sought, the FFLM has produced a Photography Consent Form,<sup>13</sup> though local policy may dictate the use of a home-grown form.

In the case of the incapacitated subject, in line with the Mental Capacity Act 2005,<sup>14</sup> the clinician will have to balance whether it is reasonable and in the public or individual's best interests to take a photo without consent<sup>15</sup> and whether other options, e.g. waiting until capacity has been regained, would be a more suitable alternative.

For instance, in the case of a sedated patient who has sustained life-threatening injuries, or an intoxicated patient who has been assaulted, failure to take photographs could be seen as unreasonable and not in either the individual's or public's best interests. Remember that delays in documentation may also result in a changing appearance of the injuries.



When photographing children, the GMC advises assessing the child's maturity ('*Gillick competence*') with consideration given to parental involvement:

'Children or young people under 16 who have the capacity and understanding to give consent for a recording may do so, but you should encourage them to involve their parents in the decision making. Where a child or young person is not able to understand the nature, purpose and possible consequences of the recording, you must get consent from a person with parental responsibility to make the recording.'<sup>16</sup>

When faced with photo-documentation of intimate images, e.g. the breasts, genitalia or perianal area, additional precautions are required to ensure that inappropriate viewing of the images does not result. The FFLM issued joint guidance in September 2023 with the Royal College of Paediatrics and Child Health (RCPCH) with respect to intimate images.<sup>17</sup> The clinician should ensure informed consent is obtained from the complainant or the individual who holds parental responsibility (in the case of a child), though under 16s with capacity can consent alone if competent. However, as with non-intimate images under 16s should be encouraged to involve their parents whenever possible. The consent should outline that disclosure of the images to medical experts and the Courts may be required at a later stage. The document advised that the patient's face should not be included if intimate images are also taken and disclosure of such images will be discussed on page 14.

### 3.6 Chaperones and appropriate adults

There is a requirement for the doctor, under Paragraph 16 of Good Medical Practice (2024) that 'You must recognise and respect every patient's dignity and right to privacy.'<sup>18</sup> This concept extends to photography and to the need for a chaperone. If a chaperone may be required, it is good practice to request one as early as possible as there can be a delay in them attending.

In January 2024, the GMC published specific guidance on intimate examinations and on the requirement and role of chaperones.<sup>19</sup> This guidance aims to protect *both* the patient and the clinician. Simply assisting a patient to undress for photography may be misconstrued if informed consent has not been given and could then prove disastrous for the clinician's career and reputation. The details of the chaperone's name and role should be documented in the patient's notes.

The requirement for appropriate adults in custody is established in England and Wales in the Police and Criminal Evidence Act (PACE) 1984 and its Codes of Practice.<sup>20</sup> If an appropriate adult (AA) is required for an under-18 or for a vulnerable adult, the AA should ideally be present during the photography, though discretion should be used to prevent embarrassment to the patient, e.g. asking the AA to turn away if the patient has to undress.

### 3.7 File formats

Images are stored in different formats. In the UK Government's 2021 document on *Digital Imaging and Multimedia Procedure v3.0*, it is advised that:

*'...the format is not relevant to the admission of the evidence, only that the quality is fit for purpose.'*<sup>3</sup>

Formats are rapidly changing entities and this makes insistence on one particular file format over another impractical. The maximum information is stored with the RAW format but, as RAW is manufacturer-specific, it may therefore not be available on certain cameras. It may also present difficulties when attempting to access the images as the person receiving the images would need access to, or the technical knowledge to download, the appropriate software for images to be viewed. The RAW format is not compressed and will consume more memory in storage media.

The commonest format is the JPEG (Joint Photographic Experts Group). This has the great advantage of being readable by almost all viewing software worldwide, but has the disadvantage that the data is compressed and the image will contain less data than its original version. Some cameras allow simultaneous storage of images in RAW and JPEG formats, but this will devour more data and storage.

### 3.8 Correct sequence: history, examination or photography?

It is usually possible to take a history, perform an appropriate examination and then progress to photography. By conducting the history and examination first, the clinician can determine which parts of the body require photography. Occasionally, this order may have to be modified depending upon clinical urgency: indeed, in clinical emergencies, there may not be an opportunity to photograph the patient.



## 4. Considerations during Photography

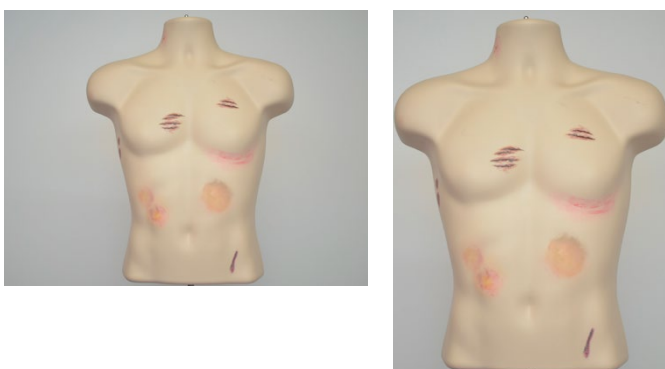
### 4.1 Head Shots/ID Shots

Many medical photographers will begin (and possibly end) a sequence of photos with a 'head shot', i.e. a photo of the subject's head and shoulders which identifies the patient and will help to match the injuries with that particular patient. However, head shots may not be appropriate in certain situations, for instance, when documenting intimate images or when dealing with a patient who dislikes having their face photographed. For non-intimate photography, it is best to discuss the need for a head shot with the patient on a case-by-case basis.

One common practice in SARCs is to take a photo of an 'identifier card' of the patient's details e.g. initials, DOB, date, case reference number, time and location of assessment, etc. to allow identification of the patient without the need to show the individual's face. This 'codified' or 'pseudonymised' technique ensures the correct identification of the patient and helps reduce the risk of mixing up images between different patients.

### 4.2 Composition

The clinician should be prepared to direct the patient to move into a particular position to allow for the best images to be taken. If the patient is uncooperative, this will reflect in the quality of the images. The clinician must establish whether the camera should be held in landscape ('horizontal') or portrait ('vertical') mode. The easiest way to determine this is to look at the natural length and width of the area being photographed. (Fig 6) By aligning the camera correctly, background space can be reduced by 'filling the frame.'



**Fig. 6** By rotating the camera from landscape to portrait, we can eliminate background space.

The camera should be held perpendicular to the wound so that the light enters the camera at 90°. <sup>21</sup> This will reduce 'angular distortion' caused by viewing the injury from an acute angle (Fig. 7).

The object of interest should be positioned as centrally as possible within the frame. However, centralising the injury may not always be possible if other anatomical landmarks are being photographed to help with orientation.



**Fig. 7** Left hand photographed perpendicularly. Angular distortion of the same hand caused by the photograph being taken at an acute angle.



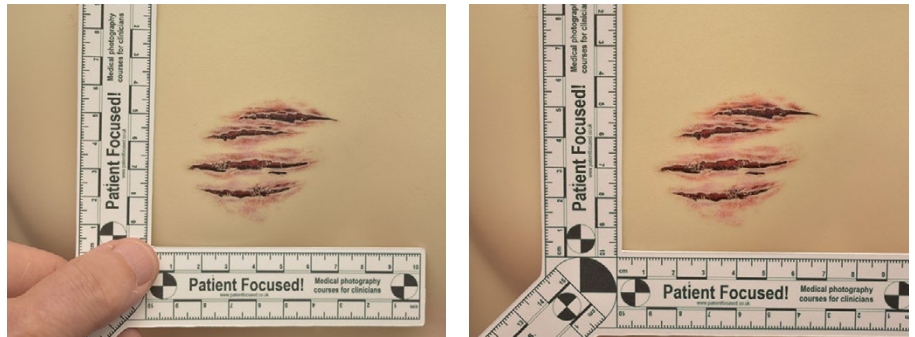


### 4.3 Use of linear scales and three photo principle

Different forms of scale are available, including straight rules, L-shaped rules (Odontology scales), disposable, flexible and rigid (Fig. 8). The anatomy of the area may have a bearing on which scale might be used. For instance, placing a rigid L-square next to an injury on the side of the upper nose can be difficult due to adjacent facial structures and the risk of eye injury. Adhesive scales are disposable but can be unpredictable, especially with hirsute or moist skin.

In general terms, each area of concern should have at least three photographs taken.

Firstly, an overview or location ('context') shot should be taken to allow orientation as to which part of the body is being considered. This should include important local anatomical landmarks, wherever possible. The rationale behind this is that different parts of the body can look very similar in close-up (Fig. 9) and could easily lead to confusion at a later stage. Surrounding anatomy and landmarks help to explain the location of the injury.



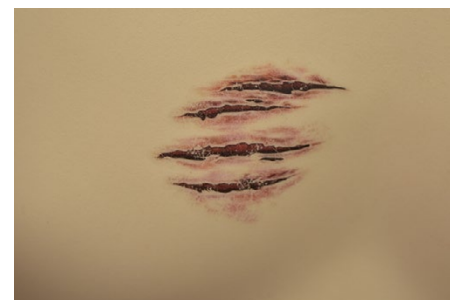
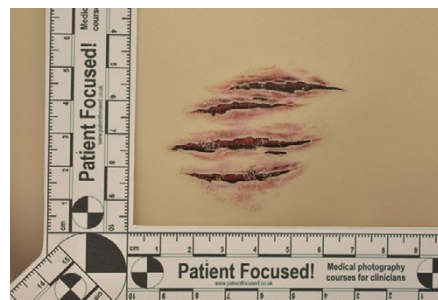
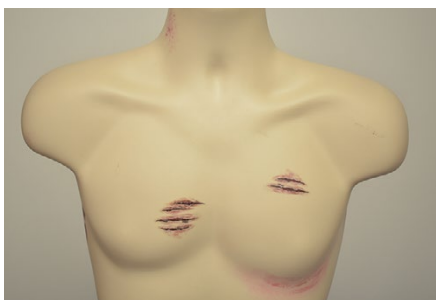
**Fig. 8** Y-shaped scales allow the photographer to keep his hands out of the image



**Fig. 9** The left side photo may appear to be 'Breasts or buttocks' but is actually the anterior right axilla.

Secondly, a close-up photo should be taken with linear scales in-situ, by either moving closer to the patient or by using the zoom lens. As many patients in the custody and SARC environments are unpredictable, invading their personal space by moving closer could be intimidating; as well as antagonising the patient, it could be uncomfortable for the clinician. A zoom lens may therefore be preferable as it would allow the frame to be filled without occupying their personal territory.

Thirdly, the close-up photo should be repeated, but without the scales in-situ, so that the immediate area is visible without any obstruction. Ideally, the photographer's fingers should not be in view as they can detract from the main subject of the photo. As per Fig. 8, attaching a 'handle' to a linear scale can be valuable in this regard.



**Fig. 10** Three photo principle.

1) Overview

2) Near shot with linear scales

3) Near shot without scales



The scales should be as flush with the skin as possible, but should not distort the skin. If the scale is too close to the camera and too far from the subject, the body and injury will appear smaller than they actually are due to 'Forced perspective.' (Fig. 11).



**Fig. 11** Keep scales as close to the skin as possible, otherwise body and injury will appear smaller.

Most injuries will have a natural length and width which lend themselves to the appropriate alignment of the scales. Ideally, the scale should be aligned so that the length of the rule highlights the maximum length of the injury (Fig 12), though this may not be possible with irregularly-shaped injuries.



**Fig. 12** The scales should be aligned to the 'best fit' of length and width (as per the first photo).

The scales should not occlude the injury (Fig. 13), thereby avoiding 'injury cut-off' which would make orientation and interpretation of injuries more difficult. The scales should be disinfected with antiseptic after use unless disposable scales are being used.



**Fig. 13** Injury cut-off



#### 4.4 'Before and after' photos

A wound cannot be assessed properly unless it can be fully seen, so it is important to expose the area completely, e.g. by removing clothing, clipping back hair, or clearing away dirt, make-up or blood. If a patient has to tug at clothing to demonstrate an injury, it is best to remove the clothing and inspect the area properly. (Fig. 14) This also allows the clinician to check for other injuries that may not be apparent to the patient.



**Fig.14** Expose the area properly by removing clothing, not just tugging at it.

Whenever possible, before and after photos of the injury should be taken. However, it is crucial that the area is not cleaned until it is confirmed that forensic swabbing is NOT required as part of the police investigation. Blood distribution, spatter analysis and establishing whose blood is present may form part of the CSI investigation. CSI should therefore be contacted to ensure that such analyses are not required.

Before and after photographs also help to demonstrate the standard and duty of care offered to the patient. Asking the patient to clean the wound will prevent accusations of the clinician being heavy-handed. Tap water, moist wipes or antiseptics can all be used to good effect.

After the wound and surrounding area have been washed, they should be dabbed dry rather than rubbed, so as to reduce the risk of re-bleeding. Dry skin is also preferable to wet skin as there is less reflection glare ('specular highlights') in the images. If the clinician is wearing gloves, they may need to change them during the assessment to avoid transfer of blood and dirt onto the camera. Gloved hands can also make it more difficult to depress the buttons on the camera, so the clinician should be familiar with handling a camera whilst wearing gloves.



**Fig.15** Before and after pictures can give a completely different perspective on an injury's appearance.



## 4.5 Checking your photos

It is essential to check the photos as they are being taken: look for blurring of the image due to camera shake or movement of the patient, flash reflection, over or under-exposure, or injury 'cut-off.' The photos should be repeated as required, though bad photos should not be deleted in forensic cases<sup>3</sup>: they are part of the medical documentation and questions could be asked at a later stage if photos are missing. If there are any concerns that the photographs are in some way not fully representative of the injury, these considerations should also be documented in the notes, e.g. 'The patient refused to keep still.'

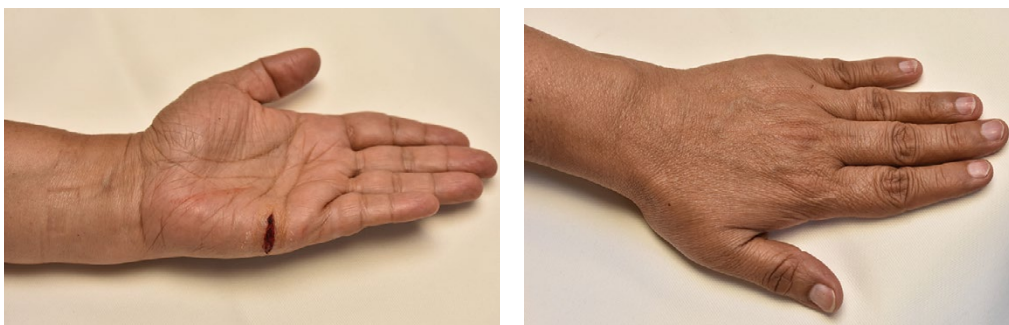
## 4.6 Photographing negative findings, incidental findings and interesting features

Not infrequently, we encounter patients who have something of clinical interest, even though this may not be directly related to their existing management. (Fig. 16)



**Fig. 16** Photographing negative or incidental findings as well as interesting features should always be considered (Traumatic mydriasis of right pupil)

The clinician should ask the patient if this can be photographed for medical interest and teaching. It is the lead author's experience that the patient will invariably agree. From a GMC perspective, this can also be justified under the GMC's principle of 'Secondary purposes.' Similarly, if there is nothing to find on examination or the findings are in some way unexpected, the clinician should still photograph the area in question. Negative or unanticipated findings may evolve or become significant afterwards, so there may also be a need to re-photograph the patient at a later stage. (Fig. 17)



**Fig. 17** Incised wound to ulnar aspect of left hand, but also demonstrating that there are no injuries to the dorsum of the left hand.

## 5. Considerations after photography

### 5.1 Enhancement (cropping, brightness, contrast)

At any point, there should be a Master Copy and a Working Copy (or back-up) of all images. Any alterations to images should be on a **copy** of the Working Copy: that way, if the alterations prove to be disastrous, the Master and Working copies are still intact. Minor corrections are considered acceptable, e.g. lightening or cropping of images, provided that such alterations can be explained, are appropriate, the clinician has the technical know-how, and the alterations will be of assistance to the overall process. If not, the clinician may be accused of manipulating the image and trying to mislead.

It is worth remembering that cropping reduces pixel count and this could prove problematic if enlargement of the image is required later. There is therefore a strong argument for the clinician to leave all images intact, with any enhancements being undertaken by specialists working within a forensic photography unit. If alteration is undertaken by the clinician, the enhanced copy of the Working Copy image should be allocated a corresponding file name. When submitting, an unaltered copy of the Working Copy should also be submitted for comparison with the enhanced image.



## 5.2 Storage of images

Internal memory space for storing images is usually limited with digital cameras, so most digital cameras store onto a removable and reusable Secure Digital (SD) or Compact Flash (CF) card, with memory storage typically between 2GB and 512GB. As with USB memory sticks, SD and CF cards offer convenience with great storage potential but run the risk of being mislaid due to their compact size. They should be regarded as temporary storage, with transfer of images to long-term storage undertaken as soon as practical.

The Floppy Disc, with its very limited 1.44MB capacity, has come and gone, having largely been surpassed by the Compact Disc and Digital Versatile Disc (CD and DVD). However, the CD and DVD are now reclining into middle age with many modern laptops choosing not to feature a CD-DVD drive. The timeframe between 'novel' and 'obsolete' is short. Printed photographs are at danger of fading with time and physical damage, and they are inconvenient in an age of moving towards electronic storage.

Current UK Government guidelines recognise this obsolescence and the need for monitoring transference to emerging storage media *'possibly as often as every 5 years, or transferred to professionally managed data management archive systems (DEMS/DAMS)'*<sup>23</sup> This advice illustrates the need to be vigilant on developing technologies. The correct storage of data is probably one of the main concerns facing the clinician. Indeed, a 2016 study<sup>22</sup> by PICS of SARC Managers in the UK highlighted that storage and retrieval of images were among the main anxieties when dealing with patients' images. Problems that have arisen include forgotten passwords, lack of encryption, inability to retrieve images from a hard drive and being unable to play DVDs of documented injuries.

The GMC is clear that medical photos of patients should be regarded as part of the patient's medical notes. Their storage should therefore be given the same level of importance as is conferred upon other medical records, both paper and electronic. Legal requirements should be welcomed as they protect both the patient and the clinician by ensuring that all data is handled securely and professionally. However, the danger of over-zealous but well-intended regulation must also be discouraged as such restrictions will hinder the numerous benefits that modern technology can bring to clinical practice.

With clinical software and hardware varying so greatly across the UK, it is therefore advisable to recommend general principles, that can be agreed locally. Total security is arguably impossible, as even the most seemingly secure systems can be hacked, or compromised by human error. The current front runners in the world of storage media are Cloud and hard drives, but even these systems have had their security credentials questioned. The danger of increasing dependence on one system was highlighted in May 2017 with the WannaCry ransomware attack, where over 200,000 computers worldwide were affected by a 'cryptoworm' emanating from

North Korea. Widespread disruption to NHS clinics, operations, GP appointments and access to patients' records resulted from exploiting defects in outdated software.<sup>23</sup> Despite this major disruption, NHS Digital, NHS England, DHSC and NHS Improvement announced in January 2018 that:

*'NHS and social care organisations can safely put health and care data, including non-personal data and confidential patient information, into the public cloud.'*<sup>24</sup>

This document stipulated that all NHS Cloud storage should be within the EEA (European Economic Area) or USA. However, they accepted (and still accept) the troubling idea that:

*'If your internet access is disrupted or is unreliable, you may lose access to your data and services'*<sup>24</sup>

The UK Government introduced a 'Cloud First' policy in 2013: despite occasional high-profile security issues affecting the Cloud, this storage medium remains the Government's preferred option that should be considered before alternatives.<sup>25</sup>

The storage of images should be in line with local data protection policies, which should themselves be in keeping with national guidelines and statutory requirements outlined in the Data Protection Act 2018<sup>26</sup> and the General Data Protection Regulation (EU) 2016/679 (GDPR), introduced in May 2018.<sup>27</sup> The GDPR is a Europe-wide piece of legislation that tightened existing data protection law by placing greater requirements on controlling and processing personal data, with stiffer penalties for breaches in data protection. Depending on the nature of the breach, the organisation can be fined up to 20M Euro or up to 4% of worldwide turnover, whichever is the greater. Supervisory bodies such as the GMC and medical defence organisations amended their own policies and advice to members to comply with the new legislation.

The GDPR requires that personal data is processed lawfully, fairly and in a transparent manner; that it is only collected for specified, explicit and legitimate purposes; that it is adequate, relevant and limited to what is necessary; that it must be accurate and up-to-date and kept in a form which permits identification for no longer than is necessary/archiving; that suitable technical and organisational measures should be in place to ensure security of personal data. The organisation should hold a 'Privacy Notice' that is readily available for inspection and that should outline how the principles of GDPR are being enforced.

Prior to introducing a medical photography service, it is essential that existing strategies are appropriately modified or new ones created to cover the management of photography. Discussion with the local Caldicott Guardian, Information Governance Manager, SIRO (Senior Information Risk Owner), NHS Commissioners and Medical Defence Organisations would be advisable to ensure compliance with NHS England/NHS Digital recommendations, as well as legal and ethical duties.



Secure storage of images should be in a password-protected system where an audit trail establishes who has accessed and downloaded any images. The initial images should be designated as 'Master Copy' and should remain unaltered. A copy of the Master Copy or electronic back up should be made as soon as possible and should be designated as the 'Working Copy'. Electronic files and discs should be codified with a patient reference number rather than the patient's name. Any CDs and DVDs should be labelled with an indelible marker.

Any dealings with the images should be via **copies** of the Working Copy and not the original Working Copy or Master Copy. The data should be accessible on a need to know basis and an audit trail of access should be available (e.g. to the Courts or for regulatory inspection) as and when required to ensure compliance with legal requirements and local policies.

Every photograph taken by the camera will generate its own individual image number. It is good practice to document in the medical notes the **first** and **last** image numbers for that particular patient (e.g. '0235 – 0240') as this will also help to identify which images belong to which patients. This is particularly important when photographing several patients in a short period of time on the same SD or CF card., where there is an increased risk of confusing which injuries belong to which patient. Photographing the clinician's ID badge at the end of the photography sequence should be considered as this may help with auditing the standard of the photos.

One area of confusion relates to the duration of retention of medical photographs in the custody and SARC setting. The NHS has offered guidance in its [Records Management Code of Practice for Health and Social Care](#) 2023 that SARC records should be kept for at least 30 years, or for up to 10 years after death.<sup>28</sup>

*'This retention period reflects the severity of the alleged offence; the length of time for the potential bringing of criminal justice proceedings and right to appeal; and the potential for cold case review. Retaining records beyond 30 years is acceptable provided there is ongoing justification and the decision is documented and approved by the relevant committees responsible for the SARCs operational delivery.'*

However, there is no mention of storage times for medical records from police custody in this document, despite the fact that many legal cases take years to come to trial, cold case reviews frequently reflect on cases that are decades old, and there is widespread confusion over ownership of medical records in a service that is increasingly privatised and fragmented between different providers. There needs to be clarification in this regard. However, there is reassurance from case law (R v Northumberland County Council and the Information Commissioner)<sup>29</sup> which highlights the legitimacy of altering storage procedures provided there is a well-reasoned case for doing so.

### 5.3 Submission of images

Most commonly, the reason for the custody or SARC clinician to submit images is with a medical report to a third party such as a Court, where the clinician is either acting as a professional witness of fact or as an expert witness. The patient should have given consent for forwarding and submission at the initial discussion when the photos were being taken, although the Court can order disclosure without the patient's consent. In its 2017 publication *Confidentiality: good practice in handling patient information*<sup>30</sup>, the GMC clarifies that the clinician is protected in such circumstances:

*'You should tell patients about disclosures you make that they would not reasonably expect, or check they have received information about such disclosures, unless that is not practicable or would undermine the purpose of the disclosure – for example, by prejudicing the prevention or detection of serious crime.'*<sup>30</sup> Para 12

and

*'You must not disclose personal information to a third party such as a solicitor, police officer or officer of a court without the patient's explicit consent, unless it is required by law, or ordered by a court, or can be justified in the public interest. You may disclose information without consent to your own legal adviser to get their advice.'*<sup>30</sup> Para 93

If forwarded on disc, the images should be submitted as a copy of the Working Copy on a non-rewritable CD/DVD, with the disc being given an exhibit number that is documented in the statement. If printed copies are required, photographic paper should be used and submitted in tandem with electronic images. The statement should also describe the make and model of camera that was used and detail that it was used specifically for documentation of injuries.

If the locally-agreed policy allows for images to be forwarded by e-mail, the security of the email systems should be determined beforehand. Two email systems may be individually 'secure' but not 'secure' between each other. For instance, the Criminal Justice email system '.cjsm.net' is secure with '.nhs.net' but not '.nhs.uk'<sup>31</sup>. Additional consideration should also be given to encryption and data limits as the email servers may not permit images with large data content to be sent electronically.

The duty of confidentiality continues after death and disclosure of information relating to deceased patients is outlined by the GMC. Requests by the Coroner, Procurator Fiscal, Director of Public Prosecutions (DPP) or other legal authority, public enquiries and National Confidential Inquiries are examples of where submission of images may be entirely appropriate after the patient's death.<sup>30</sup>, para 135



Specific consideration should also be given to the submission of intimate images. Guidance in this area was offered by a joint FFLM/RCPCH document (2023)<sup>17</sup> which considered 'intimate' to refer to the breast, genital or anal areas, with the recommendation that the doctor should disclose in the medical statement whether intimate images had been taken. However, the images should not be attached to the statement and should only be disclosed if there is a specific request from the Court or appropriate informed consent has been provided by the patient.

Until such a request is made, line drawings and written descriptions should be submitted with the statement. In the event of uncertainty as to whether one or more images should be disclosed, discussion with the clinician's medical defence organisation would be advisable.

When presenting images at a public forum, such as a medical meeting, the clinician should not present images that allow the patient to be identified. Cropping of images may be appropriate to prevent such identification and the clinician should advise the audience that photographing of slides is not permissible.

## 6. Training and qualifications

PICS recommends that clinicians undertake an accredited course in clinical photography, as this will ensure higher standards in photography of patients, reduce the likelihood of medico-legal issues and protect the clinician against accusations of poor practice. Consideration should also be given to refresher training to cover changes in technology and relevant legislation and guidelines.

## 7. Discussion and conclusions

Photo-documentation of injuries by clinicians is something that should be embraced. Clinical knowledge combined with correct training in the use of modern cameras will serve the public and criminal justice systems well. Provided the clinician is well-versed in the technical aspects of photography and the legal and ethical duties that may exist, the clinician should be able to proceed with accurate documentation of injuries without any criticism.

There is a learning curve to acquiring the skills of clinical photography but this is a skill-set that is well within the capabilities of the well-motivated healthcare professional.



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