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# Patients' perception of medical photography<sup>☆</sup>

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## KEYWORDS

Medical photography;  
Consent;  
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**Summary** *Introduction:* With the advent of digital medical photography, a balance between technological possibility and ethical acceptability is necessary. An understanding of patients' perception is vital in maintaining a healthy doctor-patient relationship and the avoidance of unnecessary medico-legal consequences. To explore this, an anonymous patient questionnaire survey was conducted.

*Methods:* Ethically approved questionnaires were distributed in our plastic surgery clinics. The questionnaires examine patients' acceptability of the use of identifiable and non-identifiable photography for different purposes including teaching, presentation, publication and internet. Patients' preferences on equipment used and who should view their images were also recorded. 205 completed questionnaires were analysed and statistically assessed.

*Results:* There was a low level of acceptability to the use of personal cameras (16%) and phones (12%) compared to hospital equipment (75%  $p < 0.001$ ). The use of non-identifiable photographs was more acceptable for all purposes ( $p < 0.001$ ). Electronic distribution was less favoured ( $p < 0.001$ ). Patients agreed to have their photographs used by treating doctors (98%), other doctors (74%), for student teaching (82%) or patient education (88%).

*Conclusion:* Medical photography is acceptable to most patients. Appropriate consent and equipment would maximise patient compliance and clinical benefits. Our discussion with medical professional and defence organisation provide a portrait of current perspectives.

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Medical illustration has been known around the world since ancient times. In the 15th century, artists such as Leonardo DaVinci and Andreas Vesalius produced many anatomical

drawings through dissection of human corpses. With the help from students of the studio of Titian, a renowned Renaissance artist, to record his dissections, Vesalius

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produced a remarkable volume known as the *Fabrica* which were named as the first comprehensive textbook of human anatomy.

In the 1840's, photographic technology first became available. This has made a revolutionary change to medical documentation. The earliest surviving clinical photograph was taken by Hill and Adamson 1847 in Edinburgh.<sup>1</sup>

With the advances in information technology and hence the ease of information sharing, a balance between technological possibility and ethical acceptability needs to be struck. Medical photography forms a vital part of patient records in Plastic surgery. It is also routinely used in many other surgical, medical and nursing specialities<sup>2</sup>; for example, ENT (Ear, Nose and Throat), Maxillofacial Surgeries, dermatology<sup>3</sup> and wound caring.<sup>4,5</sup> The use of medical photography is a valuable adjunct to the process of diagnosis, monitoring of disease progression and treatment outcome. It is a form of medico-legal document and plays an integral part to both inter- and intra-disciplinary communications. Despite guidelines published by the General Medical Council on the use of medical photography in 2002,<sup>6</sup> variation of practice is observed amongst different NHS (National Health Services) Trusts. It is obvious that a written consent should be obtained for medico-legal purposes prior to any medical procedures including photography. Nevertheless, some Trusts enforce a stricter local policy than others on the capturing and use of medical photography. We believe these variations are due to differences in interpretation of the original GMC guidelines and in some cases may actually limit the potential benefits of these photographs unnecessarily. Taylor et al examined the use of digital photography amongst plastic surgeons<sup>7</sup> however to the authors' best knowledge, no published studies had yet explored patient's perception on this matter. It is the aim of our study to survey patients' opinion and preference on the consent process, capturing equipment, distribution and accessibility of their medical photographs. The results may provide us with an indication to the appropriate level of restrictions required to achieve a balance between patients' acceptance and maximising potential benefits from medical photography.

## Patients and methods

An anonymous questionnaire was designed with questions specifically focused on each of the area of interest (consent process, capturing equipment, distribution and accessibility) in order to determine patients' preferences in relation to medical photography. This was ethically approved by the Clinical Governance Department at Addenbrooke's Hospital. The first 55 questionnaires (Figure 1) were completed by patients in the presence of the first author to ensure terminology used was easily understood. These were then distributed in the Plastic Surgery Out-patient consisting of both new and follow-up patients. Collection was stopped when a total of 205 completed questionnaires were received. Responses were correlated into a Microsoft Excel database and were statistically assessed using the McNemar's test for paired alternatives.

## Results

### Capturing equipment

The most significant results were patients' preferences on capturing equipment. 12% of patients agreed to the use of personal camera-phone compared to 16% that of personal camera ( $p > 0.05$ ), the vast majority of patients (75%) prefer the use of hospital cameras (Figure 2). This preference over personal camera and camera-phone is very highly significant ( $p < 0.001$ ).

### Identifiable vs. Non-identifiable

Patients showed definite preferences to the use of non-identifiable photographs for all purposes ( $p < 0.001$ ) (Figure 3). This was indicated by the lower acceptance rate of identifiable photographs to be used for case notes (72% vs. 88%), teaching (67% vs. 88%), journals (55% vs. 85%), presentations (54% vs. 83%), web sites (40% vs. 73%) and professional emails (46% vs. 74%) when compared to non-identifiable ones.

### Mode of distribution

The use of medical photography for case notes was most acceptable to patients with high acceptance rates of 88% for non-identifiable and 72% for identifiable photographs. Using case notes as the standard, patients are as likely to accept the traditional uses of medical photographs such as teaching, journals and presentations ( $p > 0.05$ ). On the other hand, the used of medical photography on the internet such as medical web sites and professional e-mails is generally less acceptable to patients ( $p < 0.001$ ).

### Accessibility

98% of patients were happy for doctors directly involved in their care to have access to their medical photographs. This is significantly higher than any doctors (74%), medical students (82%), other healthcare professions (79%) and other patients (77%) ( $p < 0.001$ ). It should also be noted that the higher level of acceptance to medical student to access medical photographs in comparison to any doctors is statistically significant ( $p < 0.01$ ).

### Consent process

Patients' preferences to particulates of the consent process were less definite. 47% would like to have separate consent for each mode of distribution. 41% of patient prefers to be notified on every occasion in which their images were used whereas 55% would like to be informed of the specific journal or meeting in which the above occurred.

## Discussion

The use of medical photography was found to be acceptable to most patients; however issues of data protection and confidentiality clearly need to be addressed. Patients'

**Medical Photography Questionnaire**

Addenbrookes is committed to providing the highest possible care to our patients, we would therefore be grateful if you would fill in this questionnaire which relates to the use of medical photography. This will help us to identify any areas for improvement in order to enhance the care we provide.

Your answers will be treated in the strictest of confidence and completely anonymised. Completed questionnaires will be destroyed once a final report has been written.

*Thank you for your time.*

It is our hospital policy to obtain consent for any use of medical photography. We are conducting this survey on patient's opinion in this matter.

1. Would you agree to have medical photographs taken for the following purposes?

	Identifiable i.e. face		Non-identifiable	
	Yes	No	Yes	No
Case notes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Teaching	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical journals	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical presentations	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Medical web sites	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Professional e-mails	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. Do you think consent needs to be obtained for each of the above categories separately?

Yes  No  Don't mind  Comments \_\_\_\_\_

3. Which device would you be happy to be used for taking medical photographs?

	Yes	No	Don't mind
Personal camera-phone	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Personal camera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hospital camera	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

4. Should you be informed about the use of your medical photographs on every occasion?

Yes  No  Don't mind  Comments \_\_\_\_\_

5. Would you like to be informed of the specific journal in which your medical photographs are used?

Yes  No  Don't mind  Comments \_\_\_\_\_

6. Who should have access to your medical photographs?

	Yes	No
Doctors directly involved in your care	<input type="checkbox"/>	<input type="checkbox"/>
Any doctors	<input type="checkbox"/>	<input type="checkbox"/>
Medical students	<input type="checkbox"/>	<input type="checkbox"/>
Other medical professions e.g. nurses & physiotherapists	<input type="checkbox"/>	<input type="checkbox"/>

7. Would you allow us to use your photographs for illustration purposes to other patients?

Please comment: \_\_\_\_\_  
\_\_\_\_\_

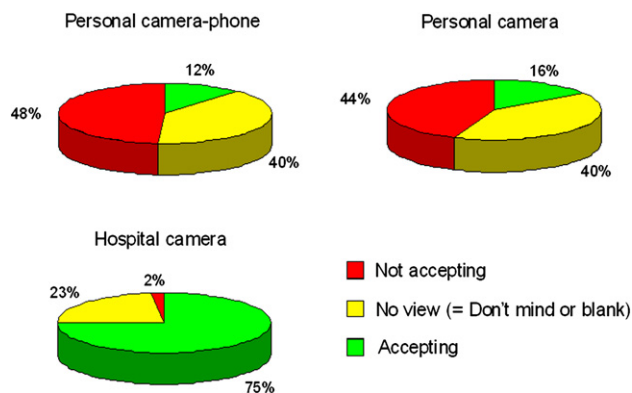
Thank you for your help in completing this questionnaire.

***"By completing this survey/questionnaire I am agreeing that the information I give can be used for this clinical audit project"***

**Figure 1** The ethically approved questionnaire used in the study.

preference to the use of hospital photographic equipment is associated with the presumed assurance of proper use and storage of their images. On the other hand, their lack of acceptance to personal capturing equipments such as cameras and camera-phones indicated their anxiety to the

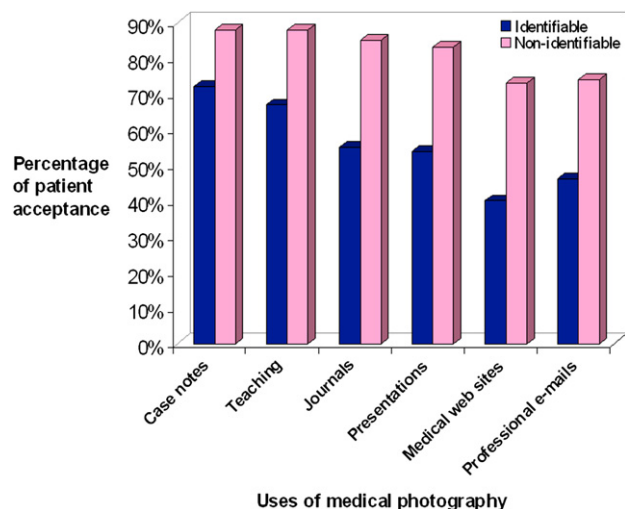
potential unethical use of their medical images. It is obvious that in an ideal world, all clinical images should preferably be captured via the medical photography department, unfortunately this is not always feasible in clinical practice. The availability of approval photographers



**Figure 2** Graphs showing patients' acceptance on different capturing equipment.

at short notices varies greatly amongst different NHS Trusts. This could potentially lead to delays during clinical sessions with resource implications. Lack of access to hospital medical photography during out of hours is another issue that needs to be noted. As a solution, hospital owned Polaroid cameras are available in some Accident and Emergency Department to capture images without delays. This unfortunately possesses other problems such as the lack of proper storage and possible misplacement of irreproducible pictures. Individuals can register their own cameras within certain Trusts making these 'hospital-approved', however, this can be labour intensive with uncertain impact on patients' acceptance.

In the majority of clinical situations, non-identifiable photographs can be taken without compromising image quality. It is important to be aware of the fact that identifiable photographs do not solely apply to images involving patient's face, but also applies to images displaying any identifiable features such as jewellery, tattoos, skin lesions and scars. It is human nature to try and preserve our own privacy, therefore not surprisingly patients much prefer the use of non-identifiable photographs for all modes of distributions. This has implications on the potential benefits of medical photography



**Figure 3** Graph demonstrating differences to patient acceptance between identifiable and non-identifiable images for all purposes.

as patients are more likely to consent for their non-identifiable images to be used for teaching, presentations, journals, medical websites and professional emails.

With the advent of digital photography, medical illustration departments in many hospitals are converting to digital systems. Despite the higher initial set-up cost of purchasing digital equipment and software, these offer a lower running cost as digital photographs can be viewed on screen at multiple locations without the need for physical prints. Images are reproducible and demands minimal physical storage space. In return for the above benefits however, digital images are prone to manipulation. Digital editing programmes such as Adobe Photoshop are now widely available; this can raise questions to the authenticity of some published clinical images.

Data obtained from medical photography is regulated by the Data Protection Act 1998 which focuses more on the storage of these data. According to this, any electronic or manual forms of personal data must be obtained fairly and lawfully. Security measures against unauthorised access must be put in place and any additional use of personal data must be consulted.<sup>8</sup> Individual responsible for breaching any of the data protection principles may be served with an enforcement notice by the Commissioner to rectify, block, erase or destroy any unlawful use of personal data within a defined period. Failure to comply with the enforcement notice would constitute to an offence. A person guilty of an offence under any provision of this Act is liable on conviction to a fine not exceeding the statutory maximum (£5000 in 2009).<sup>8</sup>

In 2002, the General Medical Council had published guidance on good practice titled 'Making and using visual and audio recordings of patients'.<sup>6</sup> In this document, some important recommendations were made. Permission and consent should always be obtained from patients for any use or disclosure. Adequate information for the purpose of the recording must be provided prior to consent. Patients' privacy and dignity should not be compromised under any circumstances. Additionally, further consent is required for any use outside the scope of the original consent and patients have the right to withdraw their consent at any time. Finally, the secure storage of patient's recordings was also emphasised.

In our hospital, a specific policy was published in 2002 detailing confidentiality, copyright and storage issues of photography and video recordings of patients.<sup>9</sup> This is currently under revision and a new version is due to be published later this year. Through this policy, a standardised 'Consent to Photography' form was developed, this is completed prior to any photography or recordings within the Trust. It consists of three-part form set: the top copy is filed in patient's case notes. The second copy is given to the patient and the third copy is sent to Medical Photography. This consent document provides the opportunity for the patient to consent to different level of usage of their images.<sup>10</sup> Furthermore, this policy had also raised awareness amongst clinicians to the copyright issue related to medical photography. It is important to be mindful that in any contract for publication, the copyright in the recording should remain with the Trust and does not pass automatically to the publishers on first publication. This is because once copyright has been transferred, the Trust would lose the ability to protect patient's interests over further publication.

After exploring patients' preferences, various medical defence organisations were consulted for advice on the safe use of medical photography and strategies to prevent any adverse medico-legal consequences. The Medical Defence Union had issued a guide on education and media<sup>11</sup> which echoed guidelines set out by the General Medical Council. In this document, the distributions of patient's data via emails were mentioned. The use of anonymous data along with secured email systems is recommended. This is in keeping with patients' preference as demonstrated in our study. On the other hand, the Medical Protection Society had not published an advice on this issue but has suggested referring to the GMC guidelines as previously mentioned.

In conclusion, although it is always more convenient and time efficient to use our own cameras, the use of these should be discouraged. As patients' acceptances of these are low, usage of personal capturing equipment may increase the chance of medico-legal problems. Non-identifiable photographs should be used whenever possible as this would maximise their uses. In view of the fact that patients are generally less happy for their photographs to be available on the internet, a separate consent is recommended for this purpose. Finally, the majority of patients would allow their photographs to be shown to other patients, the incorporation of these into patient education would maximise its clinical benefits.

### Conflicts of interest statement

None Declared.

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