IMI National Guidelines: Guide to Good Practice
Breast Photography

clinical photography, design and video in healthcare
Introduction

This particular aspect of medical illustration is well established in most NHS Medical Photography Departments. Plastic surgeons carry out many different procedures for various conditions of the breast. Listed below are some of those conditions and procedures referred for photography.

- Breast reduction / reconstruction / augmentation / implant / mastopexy / mastectomy / asymmetry / capsulotomy repair
- TRAM Flap (Transverse Rectus Abdominus Muscle Flap)
- DIEP Flap (Deep Inferior Epigastric Artery Perforator Flap)
- Latissimus Dorsi Flap
- Gynaecomastia
- Breast Radiotherapy Trials

Some surgeons have widely differing personal preferences regarding images of their patients. These guidelines should help to achieve a degree of national standardisation of breast photography for all Photography Departments to adhere to. However, it is recognised that these guidelines are a baseline recommendation and additional photographs may be required to incorporate views established locally to illustrate specific clinical features.

Standardisation

Clinical photographers must consider all aspects of standardisation, including viewpoint, background, lighting, magnification and patient positioning in order for photographic records to be comparable, both over time and between patients. Crosses may be placed on the floor or ceiling for reference so everything is placed in exactly the same position for every patient. Patients should stand in the anatomical position and the camera should be placed at subject height with a horizontal lens axis.

- **Backgrounds** – whilst placed at a suitable distance away from the patient, in order to eliminate shadows and enable correctly placed background lighting, should be black or evenly lit white. If a colour is used it should be uniform green and not distract from the patient.

- **Lighting** – two matched lights at a 45o angle towards the patient to provide main lighting. When using a black background, rim lighting is essential, where as a white or green background should be illuminated evenly.

- **Reproduction Ratios** – Subject distance and lens focal length should be fixed for each series of views in order to standardise perspective, e.g. with 35mm film cameras a 105mm lens focused at 2.5 metres for the Standard Breast Views. This will vary with digital cameras according to the size of their CCD.
Patient Communication

(Please refer to the IMI National Guidelines for Clinical Photography and Cultural Diversity)

Clinical photographers should be aware of the cultural differences concerning removal of clothing.

Once the studio is prepared, the patient should be welcomed and the procedure explained. This is to ensure that the patient is fully aware of what is involved. Patients may be very uneasy, as breast photography involves removing clothing; this can be very embarrassing for some. A suitable area should always be provided for patients to undress in private, with hooks and hangers for clothes, and a mirror.

The patient should tie back any hair that covers the shoulders or neckline in order to expose the anatomical reference points. Discrete hair ties and grips should be available for patients to use and all jewellery should be removed.

Chaperones

(Please refer to the IMI National Guidelines for The Use of Chaperones in Clinical Photography)

“Patient preference is the major determining factor as to the use of a chaperone.” (IMI National Guidelines for The Use of Chaperones in Clinical Photography.)

Generally, a clinical photographer of the same gender as the patient is preferable; (although this should not definitely preclude the use of a chaperone should the patient wish it.)

Where a same gender photographer is not available, a male clinical photographer should always ask a female patient if they are comfortable being photographed, and whether they would like a chaperone.

A female clinical photographer should ask the same questions of a male patient.

Gynaecomastia photography can be uncomfortable for a patient even with a male clinical photographer, so extra care and understanding may be required.

Consent

(Please refer to the IMI National Guidelines for The Use of Chaperones in Clinical Photography)

The clinical photographer should confirm that written consent has been given before photography is commenced.
Standard Breast Views (See Figure 1)

The Standard Breast Views illustrate the neck down to the navel, ensuring the shoulders are visible and the camera is in a horizontal, or “landscape”, format.

Hands are placed on hips, behind the back, or by the side of the body with palms facing forward (standard anatomical position), according to local requirements and the medical condition being recorded.

- Anterior – the sternum should be in centre of frame
- Oblique – at 45º to anterior view, this should enable the viewer to see the profile of each breast
- Lateral – should be parallel to the coronal plane.

These views should be used for: -
Breast reduction / reconstruction / augmentation / implant / mastopexy / mastectomy / asymmetry / capsulotomy repair.

Figure 1. Standard Breast Views
Gynaecomastia Views (See Figure 2)

This condition is photographed using the Standard Breast Views. Hands are placed on hips, behind the back, or by the side of the body with palms facing forward (standard anatomical position), according to local requirements.

- Anterior – the sternum should be in centre of frame
- Oblique – at 45° to anterior view, this should enable the viewer to see the profile of each breast
- Lateral – should be parallel to the coronal plane.

Figure 2. Gynaecomastia Views
Specific views for TRAM and Latissimus Dorsi Flap operations.

(See Figures 3 and 4)

The TRAM breast views, as shown below, capture the neck down to the pubic hairline. TRAM flap surgery involves taking a flesh graft from the abdomen for breast reconstruction. The Standard Breast Views do not adequately capture enough of the upper trunk. Below are a second set of views that include the pubic hairline in order to capture the TRAM operative area. The shoulders should be visible and the camera in a vertical, or “portrait” format.

Hands are placed on hips, behind the back, or by the side of the body with palms facing forward (standard anatomical position), according to local requirements.

- Anterior – the sternum should be in centre of frame.
- Oblique – at 45° to anterior view this should enable the viewer to see the profile of each breast
- Lateral – should be parallel with the coronal plane.

Figure 3. TRAM Views
The Latissimus Dorsi Flap involves a similar procedure to TRAM, but the graft is taken from the back. The views below should be taken in addition to the Standard Breast Views described above. Both hands should be placed by the side of the body for the posterior view and one hand should be placed on the head, to expose the breast for the posterior oblique view.

Figure 4. Latissimus Dorsi Flap Views
(Use Standard Breast Views plus the following additional views)
Specific views for Radiotherapy Trials treating breast cancer.

(See Figures 3 and 4)

It is essential when photographing patients with carcinoma of the breast that the axillae are included. All Breast Radiotherapy Trials, whether national or local, need images to be comparable and generally only require two views to be taken of each patient at specific intervals, e.g. Baseline, 2, 5, 7, and 10 years.

The first view is anterior with hands placed on the hips and the second view is anterior with the hands placed on the head, or raised as far as possible.

A specific Trial may have its own protocol to follow; an example is shown in the Appendix. The Photographic Department should keep all original negatives and digital files.

Figure 5. Views for Breast Radiotherapy Trials, e.g. START, ROSG, BDT, FAST
Appendix

(See Figures 3 and 4)

The START Trial, currently in Year 5, is a national trial for patients having radiotherapy after conservative surgery. A protocol for photographing patients is printed on the patient’s card.

(See Figures 6a & 6b)

START Trial Photographic Assessments

Photographic assessments (good quality colour print) after breast conserving surgery will be taken at baseline, and at years 2 and 5. Two anterior views of the chest will be taken, one with hands on the hips and the other with hands raised as far as possible above the head. Both photographs will exclude the head.

Change of breast appearance compared with the post-surgical baseline will be scored on a three-point graded scale together with an assessment of breast size and surgical deficit. The feasibility of and procedures for this scoring mechanism have been established. It is extremely important that the photographs are taken according to the guidelines below so that these assessments can be made.

Guidelines

Camera
- 35mm format
- 105mm lens pre-set to 2 metres

Distance to patient
- 2 metres
- lens axis on centre of chest

Size of prints
- 6 x 4 inches

Studio lighting set up

- green/dark background
- side lights
- front lights
- 2 metres

There should be adequate studio lighting with no shadow on the patient or on the background.

Were these guidelines used? Yes [ ] No [ ] If no, please ring START Trials Office

Please complete the following details

Trial number ____________________
Hospital _______________________

Date of randomisation [dd mm yyyy]

Date photograph taken [dd mm yyyy]

Photographic reference no. ___________

Photographs should be affixed to the back of this page, stored locally and sent/collected when required to the START Trials Office at the address shown below (details to be worked out locally).

START Trials Office, Clinical Trials & Statistics Unit, Section of Epidemiology, The Institute of Cancer Research, Block D, 15 Cotswold Road, Sutton, Surrey SM2 5NG. 
Figure 6a. The START Trial Protocol (Back)

START Trial Photographic Assessments

Please affix the photographs on this side

Affix photo with arms on hips here

Affix photo with arms above head here
Bibliography and Further Reading

The following IMI National Guidelines are essential reading: -
• Patient Consent to Clinical Photography
• Clinical Photography and Cultural Diversity
• The Use of Chaperones in Clinical Photography
Culture, Religion and Patient Care in a Multi-Ethnic Society, A Handbook for Professionals, by Alix Henley & Judith Schott
Medical Ethics Today, Its Practice and Philosophy, from the BMA's Ethics, Science, and Information Division.

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