

1. Introduction and aims of guidelines.

The aim of the guideline for the nurse-led inflation of expander implants is to provide continuity of service to the patient in the breast clinic setting. Currently the patients attend the breast clinic alongside patients waiting to have imaging, biopsies and results of tests for both benign and malignant breast disease. They may meet several different doctors on a weekly basis who have no relationship or rapport with the patient and may all have different levels of expertise at performing the procedure. Being a nurse-led procedure and having allotted appointment times will result in the patient being seen promptly by an appropriately trained registered nurse, instead of having to wait for the doctors who often get delayed due to unanticipated length of individual patient consultation.

Tissue expanders are implants which are used during breast reconstructive surgery when it is necessary to stretch the skin of the chest wall, to allow for an implant to be placed under the pectoralis major muscle, in order to recreate the shape of a breast. They may also be used under a latissimus dorsi reconstruction to help stretch the skin following this procedure. The expander is usually made of silicone and can have either an integral magnetic port for expansion, or it may have a port connected to it via a flexible tube which is normally sited under the skin of the chest wall, adjacent to the axilla. The expander may have one or two chambers. The single chamber varieties are expanders only and are usually replaced with silicone implants, once the correct size is achieved. The double chambered variety has an additional closed silicone gel filled chamber and may be left in when the correct size is achieved. The expander is usually injected via the port with a saline solution over a period of several weeks to achieve maximum stretching of the skin.

Depending on the type of tissue expander used, when the skin is fully stretched the consultant surgeon may offer to replace the expander with a permanent implant, remove the port alone at a second operation or leave the implant and the port intact with no need for further surgery.

2. Legal Liability Guideline Statement

Guidelines issued and approved by the Trust are considered to represent best practice. Staff may only exceptionally depart from any relevant Trust guidelines providing always that such departure is confined to the specific needs of individual circumstances. In healthcare delivery such departure shall only be undertaken where, in the judgement of the responsible healthcare professional it is fully appropriate and justifiable - such decision to be fully recorded in the patient's notes.

3. Scope

The scope of the policy is to cover all Registered Nurses who work in the specialist surgery Breast Care Unit and intend to practice the inflation of expander implants as a nurse-led procedure.

4. Policy

All Registered Nurses who undertake the inflation of tissue expanders will have met the criteria for expansion of their role. They will complete training as described in the package and will meet the learning outcomes. The procedure will be performed according to the agreed guidelines for the procedure. Once competence has been achieved the registered nurse will assume accountability for his/her own actions as per Nursing and Midwifery Council Guidelines (2008). (NMC)

CRITERIA:

In order to fulfil trust indemnity requirements and to comply with NMC guidelines in relation to accountability in practice, each registered nurse must complete the specified training package which includes a period of supervised practice.

The nurse must demonstrate an understanding of his/her professional limitations and boundaries in accordance with NMC Guidelines and accountability in practice. This must be assessed by a senior nurse within the specialist surgery department of the planned care division. (Lead Breast Nurse Practitioner or Head Nurse).

The nurse must be deemed competent to perform the procedure by the designated medical practitioner before they can practice independently. Nurses deemed competent to undertake this procedure may inflate a tissue expander following written confirmation in the patients medical notes of the volume of saline solution to be injected into the tissue expander at each individual appointment, with a written instruction by the consultant surgeon as to when they need to review the patient.

The nurse will be expected to undergo University Hospitals of Leicester consent to treatment training to ensure safe practice when undertaking the procedure.

REFERENCE: NURSING AND MIDWIFERY COUNCIL (2019) (NMC).

2. Guideline Standards and Procedures

5. PROTOCOL FOR INFLATION OF TISSUE EXPANDER FOLLOWING BREAST RECONSTRUCTIVE SURGERY.

ACTION	RATIONALE	INDICATION/EVIDENCE
<p>The tissue expander will be inflated over a period of weeks to stretch the skin without causing discomfort to the patient or introducing infection.</p> <p>EQUIPMENT. Dressing trolley which has been cleaned as per UHL aseptic procedure policy. Sterile 0.9% sodium chloride solution. Sterile dressing pack and gloves. Disposable plastic apron. 50ml syringe. White 19G, blue</p>	<p>Tissue expansion for one or two stage breast reconstruction.</p> <p>Wash hands. Prepare equipment aseptically for the procedure to reduce the risk of introducing infection.</p>	<p>Written instruction from consultant surgeon following insertion of tissue expander. Instruction of volume of fluid to be inflated at each session to be documented by the consultant in the patient's notes prior to beginning inflation of tissue expander.</p> <p>Number of sessions to be expanded will be determined by the size of the tissue expander. The nurse will record the expansion in the clinical notes</p> <p>As per UHL guidelines for Aseptic Technique in invasive procedures. DMS No 42918 As per UHL Hand Hygiene Guidelines. DMS 23813</p>

<p>needle 23G for side port expander or green 21G for integral metal port tissue expander. Hydrex skin prep chlorhexidine wipe 2% for single patient use. Sterile dressing.</p> <p>ACTION Explain the procedure to the patient and allow them to ask questions.</p> <p>ACTION Identify the injection point whether integral with magnetic port or distant port. Safely locate the port for injection by checking the patients' case notes, and use of the magnetic locator with the integral port, or by palpation of the distant drum shaped port.</p> <p>Check site of port or wound for signs of redness, inflammation or infection.</p> <p>Clean the patients' skin around the port with chlorhexidine wipe and allow to dry. Wash hands and apply sterile gloves.</p>	<p>RATIONALE To gain verbal consent and document in the patients notes, ensuring the patient understands the procedure.</p> <p>RATIONALE To help locate the port. Either palpation if distant or with the magnetic supplied by the manufacturer. To prevent puncturing the expander implant and to avoid injecting into the surrounding skin or tissue.</p> <p>To avoid injecting into an infected or inflamed port.</p> <p>To reduce risk of infection from skin micro-organisms.</p>	<p>INDICATION/EVIDENCE NMC guidelines for profession practice (2008) NMC London UHL Consent policy</p> <p>INDICATION/EVIDENCE The type of expander will be written in the patients' case notes. The patient will carry the portlocating magnet device. As indicated by practical assessment of competency.</p> <p>If signs of infection, redness or inflammation present refer directly to consultant to assess need for antibiotics or other interventions. Take a wound swab of the site and do not inflate.</p> <p>As per UHL guidelines for aseptic technique in invasive procedures. DMS No 42918.</p>
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<p>Insert needle into the port checking position of needle is correct by drawing back fluid from the expander.</p> <p>Slowly inject volume of 0.9% saline for injection solution into port as written by the consultant in the patients' case notes.</p> <p>ACTION Apply sterile nonadhesive dressing following inflation.</p> <p>Dispose of needle and syringe into sharps disposal container.</p> <p>Record volume of fluid injected into expander in the patients notes.</p> <p>When tissue expander is fully inflated refer back to the consultant in charge and document actions in their notes.</p>	<p>To ensure the needle is not lying in the subcutaneous tissue, and to prevent injection of fluid into underlying tissues or puncturing expand implant.</p> <p>To prevent the patient feeling any pain due to inflation of the tissue expander.</p> <p>RATIONALE To keep injection site clean and reduce the risk of infection.</p> <p>To ensure the safe disposal of sharps and reduce the risk of needle stick injury.</p> <p>To prevent over inflation of tissue expander above the manufacturers guidelines.</p> <p>To prepare patient for next step in reconstructive surgery or to review as necessary.</p>	<p>5mls of fluid will be withdrawn from the expander prior to injection of saline. Use blue needle in double chamber expandable implants to avoid port damage that may cause a leak.</p> <p>Patient will express no verbal or non-verbal indication of pain, throughout the procedure</p> <p>INDICATION/EVIDENCE As per UHL infection prevention and control, sharps management guidelines DMS No 33425</p> <p>Document actions in the patients' notes to include :- Advice leaflet regarding expansion of implants. Verbal consent gained. Port site free of infection or actions taken if infection noted. Volume of saline injected into the expander. Any complaints of pain, and action taken if any pain, or signs of infection.</p> <p>Ensure patient has an appointment at the next available out-patients clinic for consultant surgeon.</p>
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3. Education and Training

20 supervised expander inflations in breast clinic to facilitate practice

Learning outcomes for registered Nurses.

Aim.

The Registered Nurse will be able to safely inflate an expander implant according to the agreed standard and in line with the NMC code of professional conduct.

Objectives.

The nurse will:

1. Verbally demonstrate their knowledge of the different types of expander and the types of port with each type of expander.
2. Safely identify the location of the expander port.
3. Demonstrate a safe and effective injection technique into the expander port.
4. Know and recognise complications related to inflation of expander i.e. infection or pain due to expansion and report any concerns to consultant in charge.
5. Fulfil the performance criteria and to complete a period of supervised practice as also stated in the competency assessment.
6. Demonstrate awareness of accountability in practice as per NMC guidelines.

Assessment.

The Registered Nurses' knowledge and skill must be assessed by a medical practitioner who is already established as competent in tissue expansion.

A reflective log of practice should be maintained by the Registered Nurse using the Leicester Clinical Assessment Tool (LCAT), an LCAT trained assessor should also carry out three LCAT assessments, one at the beginning of practice, one after three supervised practices and one as a final assessment.

The head nurse/ Lead Breast Nurse Practitioner should also assess the Registered Nurse to ensure they are acting within their own professional boundaries and understand their accountability when taking on extended roles.

The nurse must observe the competent practitioner inflate a tissue expander on a minimum of three occasions, prior to beginning supervised practice, for both the magnetic port and the distant port.

The nurse must complete inflation of expander under the close supervision of the same practitioner until he/she is able to perform the procedure successfully and skilfully, for both types of port. This must be a minimum of twenty times at the agreed level of skill, for each port type, as suggested by the medical practitioner assessing the procedure.

A reflective diary should be maintained of each inflation and LCAT assessments must be completed.

The medical practitioner (assessor) must state that competence has been achieved for both types of expanders, and the nurse must feel confident and safe to perform the procedure before he/she practices alone.

The nurse must achieve competence in the knowledge and rationale of tissue expansion, including identifying adverse complications such as infection or pain, and the action to be taken should they occur.

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Professional competence	Guidelines for undertaking extended roles are understood and	Head Of Nursing for MSK/SS or Lead	Initial sign off and then yearly at	Yearly IPR

	<p>demonstrated by discussion. Awareness of the NMC professional requirements and Scope of practice demonstrated through discussion. Awareness of accountability demonstrated through discussion</p>	Breast Advanced Nurse Practitioner	IPR	
Clinical procedure Competence	<p>Demonstrates an understanding of the rationale for this procedure Through discussion and reflective practice. Is able to differentiate between the different types of tissue expanders used through discussion and demonstration of practice. Has successfully completed 20 supervised practices for each type of port and demonstrated through documentation and direct observation of supervisor.</p> <p>Checks patient details / allergies. Communicates effectively with patients, as demonstrated to supervisor and the patient clearly understands the procedure. Consent training completed. Demonstrates the ability to locate the magnetic port of an integral expander. Demonstrates the ability to locate the distant port of a non-</p>	Lead Clinician or senior oncoplastic Surgeon	Initial sign off and then yearly at IPR	Yearly IPR

	integral expander. Demonstrates a safe injection technique (to be supported by evidence of supervised practice)			
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Assessment signatures for the nurse- led competency of inflating expander implants.

Signature of assessor 1
 Print name of assessor, Date
 Signature of assessor 2 (LCAT).....
 Print name of assessor Date
 Signature of person assessed as competent
 Print name of person assessed as competent

5. Supporting References

Code of professional conduct. Nursing and Midwifery Council (2018)
 WWW.nmc-uk.org
 UHL Aseptic technique guidelines for invasive procedures. DMS No 42918
 UHL Policy for infection prevention and control. Sharps management guidelines.
 DMS No 33425

6. Key Words

Breast expander implants

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Details of Changes made during review: Reference dates. July 2022 – no changes	