The Newcastle upon Tyne Hospitals NHS Foundation Trust

Surgical Scrub, Gown and Glove Procedure

Version No.:	3
Effective From:	22 June 2017
Expiry Date:	22 June 2020
Date Ratified:	30 May 2017
Ratified By:	Theatre User Groups & Clinical Policy Group

1 Introduction

There is a standard procedure for surgical hand antisepsis, gowning and gloving which is based on current evidence, best practice and validated research. The patient's surgical outcome is enhanced by the promotion of an aseptic environment (Association for Perioperative Practice 2011). This policy supports infection prevention and control which is a priority for the Trust.

2 Scope

This policy is to provide guidance to all healthcare professionals required to undertake a surgical hand scrub and the donning of a sterile gown and gloves in order to protect a patient from infection during an operation or other invasive procedure

3 Aims

The aim of the policy is to provide a standardised procedure for surgical hand antisepsis, donning of a sterile gown and gloves.

4 Duties

4.1 Directorate Managers and unit Matrons are responsible for the policy implementation

4.2 Departmental Sisters are responsible for ensuring implementation and compliance with the policy

4.3 All members of the scrub team are responsible for complying with the policy

5 Definitions

5.1 The scrub team includes all doctors, registered nurses, operating department practitioners, surgical care practitioners, advanced scrub practitioners and assistant scrub practitioners who are required to carry out this scrub procedure.

5.2 'Scrubbing' or 'scrub' is a term used to describe the process of hand and forearm decontamination required by the surgical team prior to commencing any surgical or invasive procedure.

6 The Surgical Scrub, Gown and Glove Procedure

All members of the sterile surgical scrub team are required to perform a surgical hand scrub and don sterile gown and gloves before touching sterile equipment or the sterile field. The correct performance of these procedures helps to protect a patient from infection by preventing pathogenic (disease producing) micro-organisms on the hands, arms and clothes of “sterile” team members from coming into contact with a patients wound during an operation. The resulting infection from micro-organisms introduced into a wound during surgery could prove fatal to the patient.

The surgical scrub is a systematic washing of the hands and forearms and scrubbing of finger nails using especially developed techniques and the most effective antibacterial cleansing agent available in order to render the hands and arms as free as possible from micro-organisms. The skin cannot be sterilised without destruction of tissue but as many bacteria as possible can be removed by a thorough hand and arm antisepsis to make the skin surgically clean. Gown and glove procedures that are performed following the surgical scrub, involve the donning of a sterile surgical gown and gloves in such a way as to maintain sterility of the outside of both gown and gloves.

The purpose of these procedures is to eliminate some of the controllable sources of contamination in the performance of aseptic procedures. The person assigned to scrub for an operation should adhere to these specialist techniques and must scrub their hands and arms for a prescribed length of time as described in the procedure prior to donning a sterile gown and gloves to provide a sterile covering for their clothing and hands.

Latex Use and Actions required

> For those staff who, following review need to use latex going forward, Departmental Managers/Leads will need to complete the occupational health referral form attached stating ‘latex user requiring health surveillance’ and email to Newcastle.ohs@nhs.net. These staff will be assessed by occupational health team and placed in the appropriate health surveillance programme.

Please review the Health and Safety Executive information and the current Latex Policy as part of your review.

http://nuth-vintranet1/apps/policies/healthsafety/LatexPolicy201510.pdf

Hand washing is an important factor in preventing the spread of infection (refer to Trust Hand Hygiene Policy) and although the circulating person is not required to perform a surgical scrub, they should wash their hands before and between tasks for their own protection and for that of the patient whose body defences are weakened by both the disorder that makes surgery necessary and by the surgery itself.

6.1 Micro-organisms

The micro-organisms normally present on the skin can be described as transient and resident:

6.1.1 Transient organisms are those that are introduced onto the skin surface by contact with “soil” (micro-organisms on surfaces) and various other substances from the environment. Washing with soap solution will remove most of the bacteria.

6.1.2 Resident organisms are those whose natural habitat is the skin. They comprise gram positive and gram negative bacteria and exist in large numbers under the fingernails, in the deeper layers of the skin such as hair follicles, sweat glands and sebaceous glands. Scrubbing removes the resident bacteria from the surface and just beneath the surface of the skin. After a time the resident organisms in the deeper layers of the skin are brought to the surface by perspiration and the oil secretion of the sebaceous glands and the bacterial count is again increased. For this reason sterile gloves are worn to prevent contamination of the patient’s wound and the sterile instruments/equipment used during procedures.

6.2 Preparation for scrubbing

Personal cleanliness is of extreme importance for operating theatre personnel. A daily shower, frequent hair washing and attention to hands and fingernails are most important. Finger nails should be kept short enough so that they are not visible over the tips of the fingers. Short nails are easy to keep clean, will not puncture gloves and should be free of any form of nail treatments or polish. Staff should note and report to the person in charge, any infection, rash or open lesion on their hands, nails or arms. It is recommended that staff use the rest room facilities before scrubbing to reduce the risk of having to leave the table once the procedure has started.

6.3 Jewellery

Jewellery is a hazard in theatres; wrist watches and jewellery of any kind (including dress rings and bangles) must not be worn. Wedding rings harbour bacteria so should be removed when scrubbing wherever possible. Earrings are dangerous in that they may fall into a wound and therefore must not be worn at any time (refer to Infection Control Practice in the Operating Department policy). All staff should adhere to “bare below the elbows” prior to any form of clinical contact with patients.

6.4 Clothing

All operating theatre staff should wear a clean, short sleeved cotton scrub suit each day before entering the operating department. The scrub suit should cover any other clothing such as underwear, and trouser legs should not touch the floor as this may transport bacteria from one place to another. The person assigned to scrub should also adjust the sleeves of their scrub suit to

at least four inches above the elbows to prevent them from getting wet and potentially increasing the risk of contamination of the gown.

6.5 Footwear

Dedicated personalised closed toe non-slip footwear must be available for all regular theatre staff in the theatre complex. Boots should be worn if there is a high risk of heavy blood/body fluid loss. Observers to theatre procedure within the operating theatre must be provided with spare theatre shoes. Parents who are required to enter the theatre for a short time prior to surgery should wear designated theatre shoes (overshoes must not be used). Theatre staff are responsible for decontaminating their footwear following each procedure (refer to Infection Control Practice in the Operating Department policy).

6.6 Hats

Within the operating theatre hair must be completely covered with a clean disposable hat that should be changed at least daily, on leaving the department or if visibly contaminated with blood or other fluids and disposed of into a clinical waste receptacle (refer to Trust Waste Management Policy). This is to prevent the possible contamination of the sterile field by falling hair or dandruff. Beards must be covered with a hood. Outside of the operating theatre but within the theatre complex, hats need not be worn but hair must be tied back and up off the collar.

6.7 Masks

A surgical mask is worn primarily to protect the patient from bacteria exhaled by operating room personnel. All members of the scrub team should wear a mask, but the wearing of masks by other personnel should be at the discretion of the Consultant in charge. Every individual in the operating theatre should wear a mask when prosthesis / implant surgery is taking place. The mask must fit snugly to the face to prevent passage of air around the sides and fogging of glasses if worn. A fresh mask should be donned immediately before beginning the scrub procedure and it is not considered sterile. If the mask becomes damp, droplets from the nose and mouth can easily pass though it and the mask no longer serves as a barrier to germs, therefore the mask should be changed after each procedure and more often if it becomes damp.

A mask should never be allowed to dangle around the neck, placed in a pocket or on a clean surface and should only be handled by the ties after it is removed. Careful handling of a used mask by the ties prevents the spread of micro organisms throughout the surgical suite. As soon as the mask is removed it should be placed in a designated receptacle and the hands should be washed.

Protection of the mucous membranes of the eyes, mouth and nose from procedures that involve splashing or spraying of blood, body fluids or bone chips is essential. Protective eye wear covering front and side of the eyes, or full face visors must be worn by the surgical scrub team and those performing

invasive procedures. These should either be disposable or cleaned according to manufacturer's instructions after use. Ordinary prescription spectacles do not provide sufficient protection. Visors cannot be used with magnifying loupes and should, therefore be fitted with side shields. Dust mist masks (FFP3) must be available in theatre for procedures where there is a risk of exposure to TB.

6.8 Scrub Rooms

Scrub rooms must be stocked with a variety of types and sizes of sterile gloves, sterile gown packs, antimicrobial cleansing solutions and sterile nail brushes/sponges with a nail pick. These brushes are pre-packed, for single use only and some may already be impregnated with an antimicrobial solution. Scrub brushes may be placed in dispensers next to sinks

Sinks are provided with hot and cold water and tap controls must be adjusted for water temperature flow before starting to scrub. Running water is preferred because it easily rinses away suds containing bacteria. Containers for antimicrobial solutions are placed between each set of taps and care should be taken not to contaminate hands when dispensing solution. The pump dispenser must be changed each time an empty bottle is replaced with a new one. The standard solutions are Povidone Iodine or Chlorhexidine. Skinsan (triclosan) may be available for those practitioners who have a sensitivity to the standard solutions. Antimicrobial solutions are used because;

6.8.1 They are non-irritating to most people.

6.8.2 They leave a minimum number of micro-organisms on the skin.

6.8.3 They have a prolonged anti-bacterial effect on the skin when used regularly. Surgical detergents leave a film on the skin which keeps the resident bacteria to a minimum and yet they do not interfere with the skin's natural resistance to transient bacteria.

6.8.4 They will lather in either hot, cold or hard water.

6.8.5 The amount of detergent needed for a scrub is small (about 6 - 8 ml). Adding more water produces more lather.

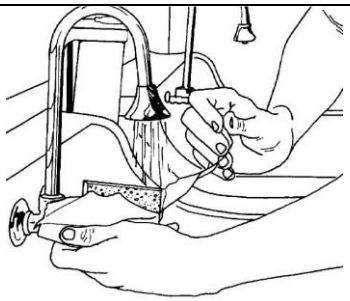
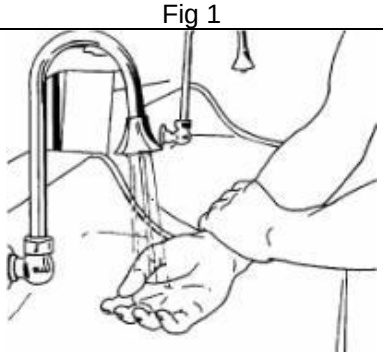
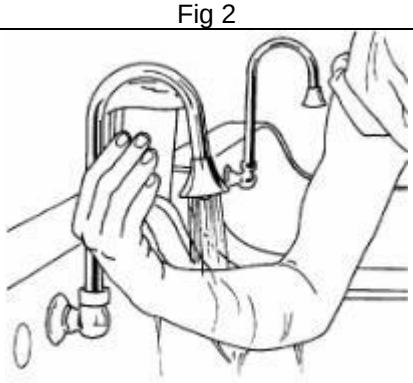
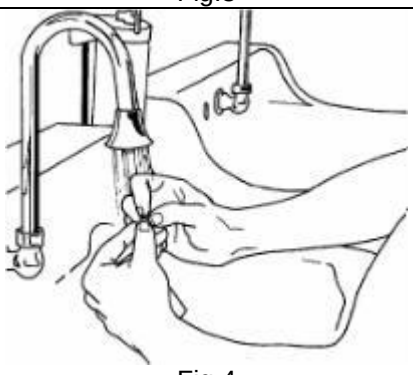
6.9 The Surgical Scrub

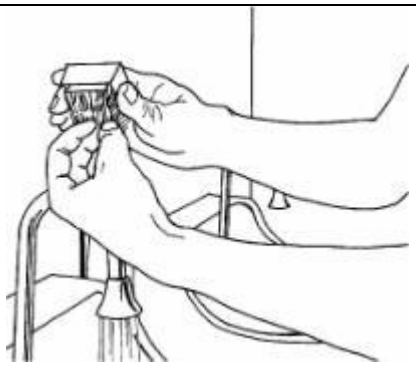
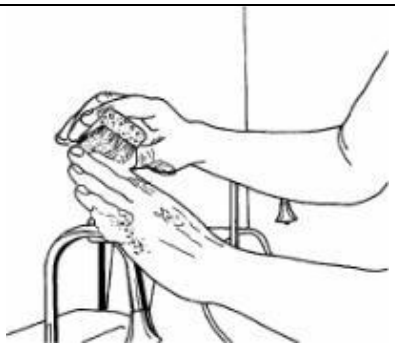
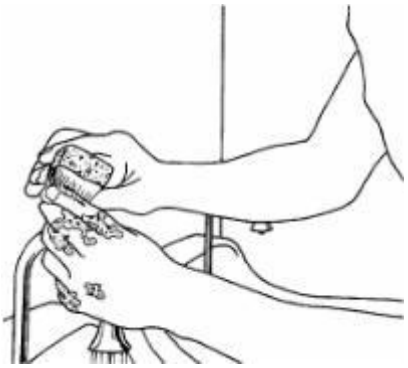
The aim of surgical hand antisepsis is to remove debris and transient micro-organisms, to reduce resident micro-organisms to a minimum and to inhibit rapid rebound growth on the hands, nails and forearms of surgical personnel (AfPP 2011). The following section outlines the surgical hand antisepsis procedure.

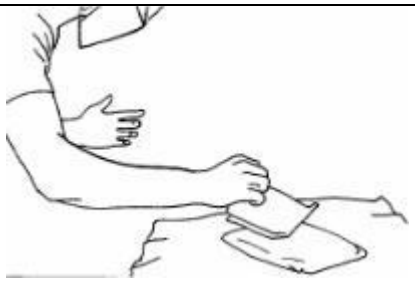
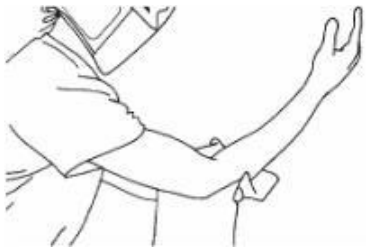
6.9.1 Your initial scrub procedure should last 5 minutes.
6.9.2 Subsequent procedures last 3 minutes.
6.9.3 A clock should be provided for timing the scrub procedure.

6.9.4 If the scrub practitioners hands or arms accidentally touch the taps, sink or other unsterile object during any phase of the scrub cycle they are considered contaminated and the scrub cycle must begin again.

Please note that scrubbing areas other than the nails using the nail brush has shown to cause abrasions to the skin and should be avoided.

Regulate the flow and temperature of the water. Open package containing nailbrush (see Figure 1) lie the brush on the back of the scrub sink still in the opened package.	 Fig 1
Wet hands and arms (see Figure 2) for an initial prescrub wash. Use several drops of scrub solution, work up a heavy lather, then wash the hands and arms to the elbows.	 Fig 2
Rinse hands and arms thoroughly, allowing the water to run from the hands to the elbows (see Figure 3). Do not retrace or shake the hands and arms; let the water drip from the elbow	 Fig.3
Remove the sterile brush and pick from opened package. Clean under nails with pick and discard. (Figure 4)	 Fig.4

Moisten brush and work up a lather. Lather fingertips with sponge-side of brush; then, using bristle side of brush, scrub the spaces under the fingernails of the right or left hand (see Figure 5). Repeat for other hand. When scrubbing the hands must remain above the level of the elbows and away from theatre attire to avoid contamination from splashing.	 Fig 5
Lather fingers. Wash on all four sides of the fingers using the **sponge side only**. (Figure 6)	 Fig.6
The scrub procedure must follow the Trust policy for hand decontamination ie. 1. Palm to palm 2. Right palm over left dorsum and left palm over right dorsum 3. Palm to palm fingers interlaced 4. Back of fingers to opposing palms with fingers interlocked 5. Rotational rubbing of right thumb clasped in left palm and vice versa 6. Rotational rubbing backwards and forwards with clasped fingers of right hand in left palm and vice versa. Continue to wash the arms but encompassing only two thirds of the forearms to avoid compromising the cleanliness of the hands. Hands and arms must be rinsed thoroughly from fingertip to elbow without retracing, allowing the water to drip from the elbow before approaching the gown pack. (Figure 7-8)	 Fig.7  Fig. 8

Pick up one hand towel from the top of the gown pack and step back from the table (see Figure 9). Grasp the towel and open it fully. Do not allow the towel to touch any unsterile object or unsterile parts of your body. Hold your hands and arms above your elbow, and keep your arms away from your body. (Figure 9)	 Fig. 9
Holding one end of the towel with one hand dry the fingers of the opposite hand using a blotting rotational motion. Move to the dry area of the towel and continue in this manner down the forearm to the elbow. **DO NOT** retrace any areas. Discard this towel in an appropriate receptacle. Repeat with the other towel from the pack for the other hand/arm. (Figures 10-12)	 Fig 10  Fig 11  Fig 12

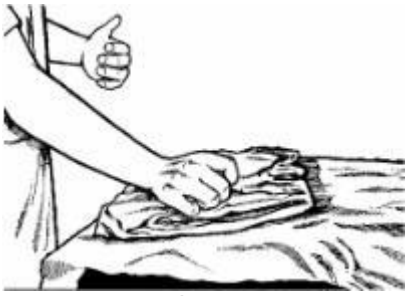
6.10 Gowning

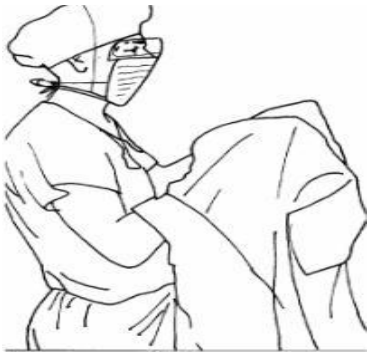
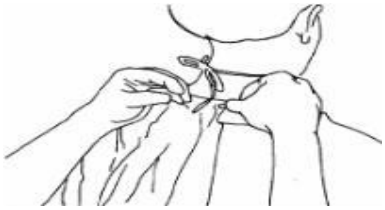
Surgical gowns are folded with the inside facing the scrub person. This method of folding facilitates picking up and donning the gown without touching the outside surface. If the scrub person touches the outside of the gown whilst donning it, the gown must be considered to be contaminated. If this occurs discard the gown.

The scrub person's hands and arms are contaminated if they are allowed to fall below waist level or to touch the body therefore hands and arms should be kept above the waist and away from the body at an angle of about 20 to 30 degrees above the elbows.

After donning the surgical gown, the only parts of the gown that are considered sterile are the sleeves (except for the axillary area) and the front from waist level to a few inches below the neck opening. If the gown is touched or brushed by an un-sterile object the gown is then considered contaminated. The contaminated gown must be removed using the proper technique and then a new sterile gown should be donned.

Gowning Procedure

With one hand, pick up the entire folded gown from the wrapper by grasping the gown through all layers, being careful to touch only the inside top layer which is exposed (Figure 13). Step back from the trolley / shelf.	 Fig. 13
Hold the gown in the manner shown in Figure 14 near the gown's neck and allow it to unfold being careful that it does not touch either the body or other un-sterile objects. Grasp the inside shoulder seams and open the gown with the armholes facing.	 Fig. 14

Slide arms part way into the sleeves of the gown keeping hands at shoulder level away from the body (Figure15).	 Fig. 15
Slide arms further into the gown sleeves and when the fingertips are level with the proximal edge of the cuff, grasp the inside seam at the cuff hem using thumb and index finger. Be careful that no part of the hand protrudes from the sleeve cuff (Figure 16).	 Fig.16
The circulating person should assist at this point to position the gown over the shoulders by grasping the inside surface of the gown at the shoulder seams. They can then adjust the gown over the scrub person's shoulders. The circulating person's hands are only in contact with the inside surface of the gown. The circulating person then prepares to secure the gown, the neck and back may be secured with a Velcro tab or ties. The circulating person then ties the gown at waist level at the back. This technique prevents the contaminated surfaces at the back of the gown from coming into contact with the front of the gown. (Figures 17-19)	 Fig 17  Fig 18  Fig 19

6.11 Surgical Glove Technique

Gloves act as a barrier to prevent transmission of infection between staff and patients. Surgical gloves must fit appropriately for comfort, dexterity and sensitivity. Sterile gloves are packaged so that the scrub person may don the gloves without contaminating the outer surfaces.

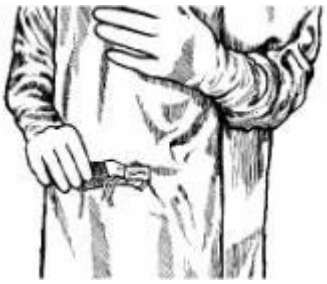
Gloving Procedure

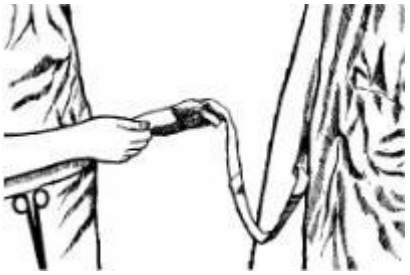
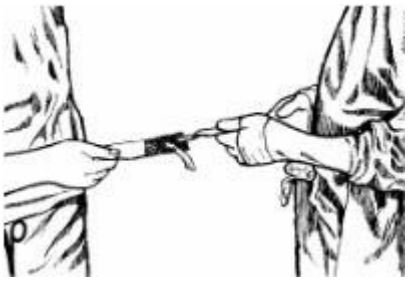
Open the inner package containing the gloves and pick up one glove by the folded cuff edge with the sleeve-covered hand (Figure 20).	 Fig. 20
Place the glove on the opposite gown sleeve palm down, with the glove fingers pointing toward the shoulder. The palm of the hand inside the gown sleeve must be facing upward toward the palm of the glove. (Figure 21)	 Fig. 21
Place the glove's rolled cuff edge at the seam that connects the sleeve to the gown cuff. Grasp the bottom rolled cuff edge of the glove with the thumb and index finger. (Figure 22).	 Fig. 22
While holding the glove's cuff edge with one hand, grasp the uppermost edge of the glove's cuff with the opposite hand. Take care not to expose the bare fingers while doing this (Figure 23).	 Fig. 23

Continuing to grasp the glove, stretch the cuff of the glove over the hand (Figure 24).	 Fig 24
Using the opposite sleeve covered hand, grasp both the glove cuff and sleeve cuff seam and pull the glove onto the hand Pull any excessive amount of glove sleeve from underneath the cuff of the glove (Figure 25).	 Fig. 25
Using the hand that is now gloved put on the second glove in the same manner. When gloving is completed no part of the skin has touched the outside surface of the gloves. Check to make sure that each gown cuff is secured and covered completely by the cuff of the glove. Adjust the fingers of the glove as necessary so that they fit snugly. (Figure 26).	 Fig. 26

Final Tie of gown

Once the sterile gloves are on the scrub practitioner is ready to secure their gown with assistance from the circulating person as follows;

The scrub person will take hold of the belt tab which is securing the belt ties. Keeping hold of the left side tie with the left hand pull the tab with the right hand ties still secured and hand the tab to the circulating person.	 Fig. 27

The circulating person will take hold of the tab being very careful not to touch the tie and will move to the side or behind the scrub person. The scrub person will then turn if necessary to enable them to reach and retrieve the tie. (Figure 28).	 Fig 28
When the scrub person is properly positioned they will then take hold of the **belt tie only** being careful not to touch the tab and pull on the tie leaving the circulating person with only the tab in their hand The circulating person must hold on tightly to the tab so that when the scrub person pulls on the tie the tab doesn't come with it and contaminate them. (Figure 29).	 Fig. 29
Finally the scrub practitioner will secure the ties on left side. (Figure 30)	 Fig 30

6.12 Removing the Gown and Gloves

On completion of a surgical case the outer part of the gown and gloves are considered to be contaminated by bacteria from the procedure and the scrub person must remove them very carefully to avoid contamination to their forearms and hands. The gloves should be removed after the gown. The procedure is as follows;

After the circulating person unties the neck and back ties, the scrub person performs the following procedure by themselves. Grasp the gown at the shoulders and pull the gown forward and down over the arms and gloved hands. (Fig 31)	 Fig. 31

Holding arms away from the body fold the gown so that the outside is folded in and discard it into the appropriate bag. (Figure 32)	 Fig 32
Grasp the outer surface of one glove with the other gloved hand "rubber to rubber" and peel off the glove. Discard the glove into the designated receptacle. (Figure 33)	 Fig 33
Place the fingers inside the cuff of the glove of the other hand "skin to skin" peel off as before and discard. (Figure 34)	 Fig 34

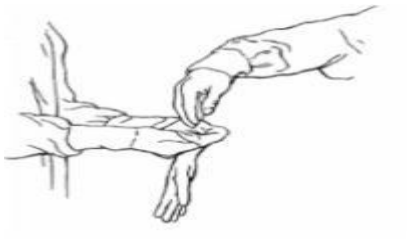
6.13 Procedure for changing gloves during the case

When gloves require changing intra-operatively due to a puncture or inadvertent contamination, the glove must be removed in a way that avoids further contamination.
This can be achieved by pulling the gloves downwards by the fingers and palms (whilst also grasping the cuff of the gown), until the glove comes over the end of the hands / fingers. The glove may then be discarded into the appropriate receptacle.

Hands must remain inside the sleeves of the gown and the closed glove technique is used to don a new glove as described in the gloving procedure (figures 20-26).

On occasions it may be preferable to don a second pair of gloves taking care not to contaminate them during the gloving procedure.

Alternatively a new glove may be donned with the assistance of another member of the surgical team as described below.

Grasp the right glove firmly at waist level. Keeping your thumbs extended and covered by the glove cuff; stretch the cuff so that the practitioner can introduce their hand without touching your gloves. The scrub person protects own gloved fingers by holding them beneath the cuff of the glove, and their thumbs by holding them away from the partly-gloved hand.	 Fig. 35

On leaving the theatre remove mask only handling the ties and discard into a clinical waste receptacle. Decontaminate hand using soap and water or alcohol gel.

7 Training

In order to achieve competence in these procedures the practitioner must have completed the Trust training on Surgical Aseptic Non-Touch Technique and have been deemed competent. Competence must be documented using the Trust standard documentation. The Saving Lives e-learning package must also be completed.
(Refer to Trust Mandatory Training Policy).

8 Equality and diversity

The Trust is committed to ensuring that, as far as is reasonably practicable, the way we provide services to the public and the way we treat our staff reflects their individual needs and does not discriminate against individuals or groups on any grounds. This document has been appropriately assessed.

9 Monitoring compliance

Standard / process / issue	***Monitoring and audit***			
	Method	***By***	***Committee***	***Frequency***
Surgical ANTT Competence	Documentation	Departmental Sisters	Matrons/Clinical Educators	Three yearly
Completion of Saving Lives e-learning	TMO/Directorate Training Reports	Departmental Sisters	Matrons/Clinical Educators	Quarterly

10 Consultation and review

This policy has been revised by the Perioperative Clinical Nurse Educators in consultation with the Perioperative Matrons and Senior Clinical staff. It has also been reviewed by the Infection Prevention and Control Team.

11 Implementation (including raising awareness)

The revised policy will be introduced and awareness raised through the Theatre User Group, Directorate Communication meetings, Senior staff and Departmental staff meetings. It will also be included in the quarterly departmental newsletter.

12 References

- Association for Perioperative Practice, 2011. *Standards and Recommendations for safe perioperative practice.*3rd ed. Harrogate: AfPP

- Hughey M. 2008. *Scrub Gown and Glove Procedures* [online] <www.brooksidepress.org>]

13 Associated documentation

- Hand Hygiene Policy
- Infection Control in the Operating Theatre
- Mandatory Training Policy
- Waste Management Policy

The Newcastle upon Tyne Hospitals NHS Foundation Trust

Equality Analysis Form A

This form must be completed and attached to any procedural document when submitted to the appropriate committee for consideration and approval.

PART 1

1. **Assessment Date:** **10/03/2017**

2. **Name of policy / strategy / service**:
Surgical Gown and Glove Procedure

3. **Name and designation of Author:**
Sheina Baldwin and Claire Winter (Clinical Educators)

4. **Names & designations of those involved in the impact analysis screening process:**
Theatre User Group

5.

Is this a:	Policy	X	Strategy		Service		
Is this:	New		Revised				
Who is affected	Employees		Service Users		Wider Community		

6. **What are the main aims, objectives of the policy, strategy, or service and the intended outcomes?** (*These can be cut and pasted from your policy*)
To facilitate safe gown and gloving application for surgical intervention.

7. **Does this policy, strategy, or service have any equality implications?** **Yes** [ ] **No** [x]

If No, state reasons and the information used to make this decision, please refer to paragraph 2.3 of the Equality Analysis Guidance before providing reasons:
No

8. Summary of evidence related to protected characteristics

Protected Characteristic	Evidence, i.e. What evidence do you have that the Trust is meeting the needs of people in various protected Groups	Does evidence/engagement highlight areas of direct or indirect discrimination? If yes describe steps to be taken to address *(by whom, completion date and review date)*	Does the evidence highlight any areas to advance opportunities or foster good relations. If yes what steps will be taken? *(by whom, completion date and review date)*
Race / Ethnic origin (including gypsies and travellers)	**No**	**No**	**No**
Sex (male/ female)	**No**	**No**	**No**
Religion and Belief	**No**	**No**	**No**
Sexual orientation including lesbian, gay and bisexual people	**Not in this policy**	**No**	**No**
Age	**No**	**No**	**No**
Disability – learning difficulties, physical disability, sensory impairment and mental health. Consider the needs of carers in this section	**N/A**	**No**	**No**
Gender Re-assignment	**No**	**No**	**No**
Marriage and Civil Partnership	**No**	**No**	**No**
Maternity / Pregnancy	**No**	**No**	**No**

9. Are there any gaps in the evidence outlined above? If 'yes' how will these be rectified?

No

10. Engagement has taken place with people who have protected characteristics and will continue through the Equality Delivery System and the Equality Diversity and Human Rights Group. Please note you may require further engagement in respect of any significant changes to policies, new developments and or changes to service delivery. In such circumstances please contact the Equality and Diversity Lead or the Involvement and Equalities Officer.

Do you require further engagement? Yes [ ] No [x]

11. Could the policy, strategy or service have a negative impact on human rights? (E.g. the right to respect for private and family life, the right to a fair hearing and the right to education?

No

PART 2

Name:

Sheina Baldwin and Claire Winter

Date of completion:

10/03/2017

(If any reader of this procedural document identifies a potential discriminatory impact that has not been identified, please refer to the Policy Author identified above, together with any suggestions for action required to avoid/reduce the impact.)