

SCRUBBING, GOWNING, AND GLOVING

1934



SCRUBBING, GOWNING, AND GLOVING

**AORN INDEPENDENT STUDY ACTIVITY
STUDY GUIDE WITH VIDEO**



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PURPOSE/GOAL

The purpose of this study guide and accompanying video is to present the procedures for scrubbing, gowning, and gloving for the surgical team preparing to participate in a surgical procedure. The mindful attention of the surgical team to aseptic practices and standard precautions helps ensure the control of infections and the safety of patients by maintaining the integrity of the sterile field.¹

OBJECTIVES

After viewing the video and completing the study guide, the participant will be able to

1. discuss principles of aseptic technique as applied to scrubbing, gowning, and gloving;
2. describe the surgical hand scrub procedure;
3. describe the method for donning gowns and gloves;
4. describe how to remove gowns and gloves; and
5. identify the sterile areas of the gown and glove.

GUIDE FOR STUDY

This study guide is intended to be use with the accompanying video. We suggest that you take the following steps to complete this education activity.

1. Read the overview and objectives for this education activity and compare them with your own learning objectives.
2. View the video.
3. To reinforce your learning, return to the study guide and view the content, paying particular attention to those areas that reflect the objectives.
4. Consult the list of suggested readings for further information.

SURGICAL HAND SCRUB

Purpose

The purposes of the surgical hand scrub are to²

- remove soil, debris, natural skin oils, hand lotions, and transient microorganisms from hands and forearms;
- decrease microorganism count on the skin;
- suppress growth of microorganism population during surgery; and
- reduce the hazard of microbial contamination by skin flora at the surgical site.

Control of Microorganisms

The surgical hand scrub uses a mechanical and chemical process to control the two types of organisms that inhabit the skin. The two types of organisms found on the human body are transient and resident organisms. People acquire transient organisms by direct contact. These organisms typically attach loosely to the skin surface. During the surgical hand scrub, the mechanical friction of the scrub process removes almost all of the transient organisms. Resident organisms are the flora below the skin surface in hair follicles, sebaceous glands, and sweat glands. They are adherent and resistant to removal. During the surgical scrub, the chemical action of the antimicrobial or antiseptic agent reduces and neutralizes the resident skin flora.²

Surgical Hand Scrub Preparations

All personnel should be in complete surgical attire as defined in AORN's "Recommended Practices for Surgical Attire" before entering the restricted areas of the surgical environment.³ The scrub person should remove the following types of jewelry because they may harbor organisms:

- watches,
- bracelets, and
- rings.

To help maintain the integrity of the sterile field in the OR, the scrub person should wear the appropriate surgical attire including

- headgear that covers all hair including sideburns and neckline. Uncovered hair acts as a filter and collects bacteria. Complete coverage of hair is necessary. It has been shown that shedding from hair can affect surgical wound infections³;
- a mask that covers the mouth and nose completely. A mask contains and filters droplets and microorganisms expelled through the mouth and nose³;
- protective eyewear or face shield to reduce contamination of mucous membranes of the mouth, nose, and eyes; and
- shoes that provide protection. Shoe covers should be worn when exposure to blood or potentially infectious materials is anticipated.

The scrub person should

- tuck the scrub shirt into the trousers to prevent the shirt from getting wet and to reduce the risk of scrubbed hands and arms becoming contaminated if brushed against the garment;
- fit the surgical face mask snugly and comfortably over his or her nose and mouth so that it does not vent at the sides;
- clean eyeglasses if worn; and
- use protective eyewear or face shields to prevent contact with contaminated materials from splashing or spraying.

Inspecting the Hands and Arms

Before scrubbing, the scrub person should inspect the skin on the hands and forearms for cuts and abrasions. The skin must be free of open lesions or cracks. Broken skin increases the risk of infection to both the patient and the surgical team member. The serum in lesions is a medium for microorganism growth.

The fingernails should be short, clean, and healthy. The cuticles should also be clean and in good condition.³ Surgical staff members should follow their facility’s policy regarding fingernail polish. AORN’s “Recommended Practices for Surgical Hand Asepsis/Hand Scrubs” recommends that fingernail polish, if worn, should be unchipped and less than four days old.

In addition, wearing artificial or acrylic nails in the surgical setting is unacceptable. Artificial nails may harbor microorganisms and hinder effective hand washing. According to reports from many state boards of cosmetology, fungal growth occurs under artificial nails from moisture trapped between the natural and artificial nail.

Scrubbing Procedure

The scrub person performs the surgical hand scrub before donning the sterile gown and gloves. Effective surgical hand scrubs reduce the number of microorganisms on the hands and arms. If a glove is perforated during surgery, then fewer microorganisms are released into the wound.

Before the surgical hand scrub, the scrub person opens the gown package containing a sterile gown, towel, and gloves and places them on a table in the OR. The main instrument table should not be used. The gown in the sterile package is folded in such a way that the scrub person can put it on without touching the outer (sterile) side with bare hands.

Standardized surgical scrub procedures should be established within each practice setting. Using a standardized surgical scrub procedure establishes a single standard of care. The degree of microbial reduction achieved by the surgical scrub necessary for prophylaxis of surgical site infections is unknown. Health care facilities are encouraged to follow the scrub agent manufacturer’s

written recommendations when establishing policies and procedures for scrub times. During the scrub procedure, either the anatomic timed scrub or the counted stroke method may be used to determine the duration of the scrub. Each facility’s policies must address which method is to be used.

To perform the surgical hand scrub, the scrub person⁴

1. opens the sterile scrub brush package and positions it for easy access;
2. adjusts the water to a comfortable temperature and flow to prevent spraying on the scrub attire. Water on the nonsterile scrub attire may soak through and contaminate the sterile gown;
3. wets hands and forearms;
4. lathers the hands and forearms to two inches above the elbows, using an antimicrobial soap. This loosens surface debris and removes cross-contamination;
5. rinses hands and arms while keeping the fingers pointed upward so that water drips off at the elbows and away from the scrub attire;
6. dries hands and arms thoroughly with paper towels;
7. removes the nail cleaner from the package, cleans under the fingernails of both hands with the nail cleaner while holding the hands under running water, and then discards the nail cleaner;
8. rinses hands;
9. removes the scrub brush and squeezes it under the water to dispense the soap (if the brush contains soap), or applies soap from the soap dispenser;
10. using either the anatomic timed scrub or counted stroke count method, holds the brush perpendicular to the fingertips and scrubs the nails; then scrubs the fingers using a back and forth motion on all four sides of each finger, including the web spaces of one hand;
11. scrubs the palm and back of the same hand to the wrist, using a circular motion;
12. maintains a lather and ensures that all skin surfaces are sufficiently exposed to the friction of scrubbing and the antimicrobial agent;
13. continues at the wrist, scrubbing with a circular motion to two inches above the elbow on all sides of the arm while rotating the arm from back to front;
14. transfers the scrub brush to the other hand and repeats all the steps for scrubbing from the fingertips

- to two inches above the elbow; during scrubbing, turns off the water when not needed;
15. discards the brush; and
16. rinses hands and arms under running water, starting at the fingertips and working toward the elbows, keeping hands upright and elbows in a downward position.

With fingers and hands pointed upward and away from the scrub attire, the scrub person enters the procedure room, pushing the door open with his or her back.

The following section outlines the two methods of the surgical hand scrub.

Anatomic Timed and Counted Stroke Scrubs

The scrub person will use either the anatomic timed scrub or the counted stroke scrub. As the names indicate, the anatomic timed scrub measures the time of scrubbing for each area, and the counted stroke scrub counts the strokes for each area. The scrub person should follow his or her facility’s policy.

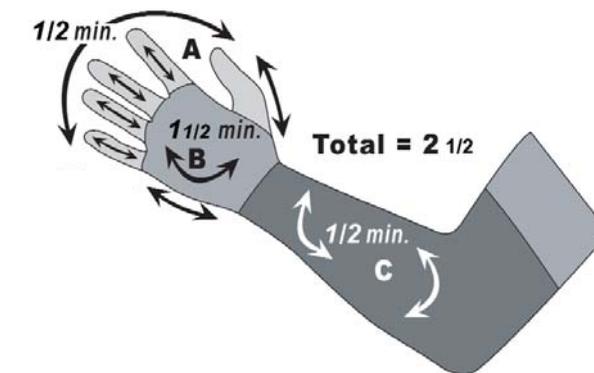
The anatomic timed scrub may be for five or 10 minutes. The five-minute scrub provides a two and a half-minute scrub per arm. The 10-minute provides a five-minute scrub per arm.

According to *Perioperative Nursing* by Linda Groah, the ten-minute scrub times are:⁴

Area	Minutes
* Left hand	1
* Left arm and elbow	1½
* Rinse hand, arm, and brush	
Repeat process for right hand	
Total	5
* Left hand	1
* Left arm up to 2 inches above elbow	1
* Rinse hand, arm, and brush	
Repeat process for right hand	
Total	4
* Left hand	½
* Rinse hand and brush	
Repeat process for right hand	
Total	1
Total minutes both extremities	10

According to *Perioperative Nursing: Principles and Practices* by Susan Fairchild, the five-minute scrub times are:⁵

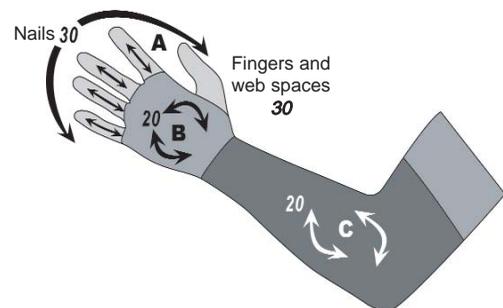
Area	Minutes
Left hand and arm	
A. Fingers and nails	½
B. Palm and back of hand	1½
C. Wrist to 2 inches above the elbow	½
Total	2½
Right hand and arm	
A. Fingers and nails	½
B. Palm and back of hand	1½
C. Wrist to 2 inches above the elbow	½
Total	2½
Total minutes both extremities	5



In the counted stroke scrub, the scrub person counts the number of strokes for each area. The person should consider each anatomic part -arms, fingers and hands- to have four sides. The counted stroke method assigns a number of strokes with the scrub brush for each of these surfaces.

Recommended stroke counts for each area are as follows:

Area	Count
Left hand and arm	
A. Nails (Rinse after 10 strokes to remove dislodged soil)	30
A. All sides of each finger(s) and web spaces	30
B. Palm and back of hand	20
C. All surfaces of the arm from wrist to 2 inches above the elbow	20
Right hand and arm	
A. Nails (Rinse after 10 strokes to remove dislodged soil)	30
A. All sides of each finger(s) and web spaces	30
B. Palm and back of hand	20
C. All surfaces of the arm from wrist to 2 inches above the elbow	20



If any part of the hands or arms inadvertently touches some part of the sink, add 10 strokes to that area of the skin to correct the contamination. Remember to follow the facility's specific procedures regarding the scrubbing method and time to be used.

Rinsing Hands and Arms

After the scrub procedure, the hands and arms must be rinsed thoroughly. The scrub person holds the hands higher than the elbows to allow water and the scrub solution to flow from the cleanest areas (the hands) to the marginal areas of the upper arms.²

Brushless (Hand Rub) Scrubbing Procedure

The use of a brush for surgical hand scrubs is not necessary for adequate reduction of bacterial counts.⁶ If a brushless hand asepsis procedure is used, the facility should develop policies and procedures to address a standardized protocol for use of FDA-approved, alcohol-based surgical hand rubs. The procedure should consist of the following steps, according to *AORN's* "Recommended Practices for Surgical Hand Asepsis/Hand Scrubs."

1. Wash hand and forearms with soap and running water immediately before beginning the surgical hand antisepsis procedure.
2. Clean the subungual areas of fingers under running water using a nail cleaner.
3. Rinse hands and forearms under running water.
4. Dry hands and forearms thoroughly with a paper towel.
5. Dispense the manufacturer-recommended amount of the surgical hand rub product.
6. Apply the product to the hand and forearms, following the manufacturer's written directions. Some manufacturers may require the use of water as part of the process.
7. Rub thoroughly until dry.
8. Repeat the product application process if indicated in the manufacturer's written directions.

Drying Hands and Arms

The scrub person must thoroughly dry hands and arms before donning the gown to prevent organisms on the wet skin from soaking through and contaminating the sterile gown. This soaking through, known as strike-through, allows microorganisms from the wet skin or scrub attire to contaminate the sterile gown. The scrub person²

1. reaches down to the opened sterile package and picks up the towel with one hand by one corner, being careful not to drip water onto the pack;
2. grasps the opposing corner of the towel with the other hand and opens the towel full length. The scrub person uses one end of the towel to dry one hand and arm and uses a circumferential motion to rub from hand to upper arm;
3. bends slightly forward to avoid letting the towel touch the attire;
4. holds the dry end of the towel in the opposite hand to dry the second arm, and uses a circumferential motion to dry the hand and all areas of the arm to the elbows; and
5. discards the towel with the hand that is currently holding it without letting it touch the scrub attire.

GOWNING AND GLOVING TECHNIQUES

Gowning

To don the gown, the scrub person

1. lifts the folded gown directly upward from the sterile package;
2. steps back from the table into an unobstructed area;
3. carefully locates the neckband and holds the inside front of the gown just below the neckband with both hands;
4. lets the gown unfold while keeping the inside of the gown toward the body without touching the sterile exterior of the gown with bare hands (NOTE: If the gown does not unfold completely, then the circulating nurse may assist by pulling down the unfolded bottom inside of the gown.); and
5. holds the hands at shoulder level and slips both arms into the armholes simultaneously.

It is important that the circulating nurse know his or her role in the gowning procedures. The circulator may assist by

- reaching inside the gown and pulling the inside seam to bring the gown over the scrub person's shoulders;
- touching only the ties, snaps, or velcro, securing the back of the gown at the neck and the waist;



- adjusting the gown by grasping the bottom edge and pulling down to eliminate any blousing; and
- securing the wraparound gown by holding the tie from the scrub person.

The scrub person hands the tie from his or her wrap-around gown to the circulator to hold, and then turns to secure the gown.

Gloving

In the closed-glove technique, the scrub person's hands remain inside the sleeves and should not touch the cuffs. In the open-glove technique, the scrub person's hands slide all the way through the sleeves and out beyond the cuffs.

Closed-Glove Technique

To don the gloves using the closed glove technique, the scrub person⁴

1. keeps both hands within the cuff so that the hands do not touch the cuff edges;
2. grasps the folded cuff of the left glove with the right hand;
3. holds the top edge of the cuff in the left hand above the palm;
4. places the palm of the glove against the palm of the left hand - the glove fingers point up the forearm;
5. grasps the back of the cuff in the right hand and turn it over the open end of the left sleeve and hand while holding the top of the left glove and underlying gown sleeve with the covered right hand;
6. pulls the glove over the extended left fingers onto the wrist by pushing the hand through the glove until it completely covers the cuff of the gown;
7. gloves the right hand in the same manner by reversing the above steps;
8. inspects the gloves for integrity after donning; and
9. hands the tie end to the circulator and secures the wraparound gown (when used).



Open-Glove Technique

The closed-glove technique should not be used when changing one or both gloves because once the hand has passed through the cuffs, they are contaminated. When a glove must be changed without assistance during a surgical procedure, the open-glove technique is used. This technique is also used when performing sterile procedures such as bladder catheterization or insertion of an IV cutdown, when a gown is not worn.⁴

To change one glove during the procedure using the open-glove technique, the scrub person²

1. steps away from the sterile field;
2. extends the contaminated glove away from the sterile field so that the circulator, using exam gloves to protect his or her hands, can remove it;
3. lifts the new sterile glove under the cuff with the uncontaminated gloved hand;
4. inserts the hand into the glove and pulls it on, leaving the cuff turned well down over the hand and avoiding inward rolling of the cuff. The bare hand does not touch the outside of the glove; and
5. rotates the arm and pulls the cuff of the glove up and over the sleeve cuff, letting the gloved fingers touch only the outside of the other glove.

To change both gloves during a procedure using the open-glove technique, the scrub person

1. follows instructions 1 and 2 above;
2. picks up the left glove cuff, touching only the edge of the cuff with his or her right thumb and index finger;
3. pulls the glove onto the left hand and leaves the glove cuff turned down;
4. picks up the right glove with the gloved left hand, keeping the gloved fingers under the folded cuff,
5. slides the right hand fingers inside the right glove cuff and pulls the glove onto the right hand while avoiding inward rolling of the cuff,
6. pulls the right glove cuff over the sleeve cuff by rotating the arm; and
7. places the gloved right hand fingers under the folded left glove cuff, rotates the arm, and pulls the left glove cuff over the sleeve cuff.



ASSISTED GOWNING AND GLOVING

Assisted Gowning

A scrub person may assist another member in drying, gowning, and gloving by²

1. opening the towel that the other member will use to dry his or her hands;
2. laying the towel on the team member's hand without touching his or her hands;
3. holding the gown at the neckband and carefully unfolding it;
4. keeping the hands on the outside of the gown, forming a protective cuff of the neck and shoulder area as the person being gowned holds both arms outstretched;
5. offering the inside of the gown to the other member so he or she can slip his or her hands into the sleeves; and
6. releasing the gown when the team member's hands are in the sleeves.

The circulator reaches inside the gown and pulls the inside seams to bring the gown over the team member's shoulders to assist in pulling the hands through the cuffs as needed and, touching only the ties, snaps, or Velcro, secures the back of the gown at the neck and the waist. The circulator may also adjust the gown by grasping the bottom edge and pulling down to eliminate any blousing. Then the scrub person adjusts the sleeves so the cuffs fit properly.



Assisted Gloving

To glove another team member, the scrub person always gloves the other person's right hand first. The scrub person²

1. picks up the glove with his or her fingers under the cuff;
2. holds the palm of the glove toward the person being gloved;
3. stretches the cuff to open the glove and holds his or her thumbs out to keep them from touching the other team member's bare hands;
4. as the other person inserts his or her hand into the glove, exerts upward firm pressure making sure the hand does not go below the waist;
5. unfolds the everted glove cuff over the cuff of the sleeve;
6. gloves the left hand with the assistance of a team member by repeating the steps; and
7. holds the tie as the other team member turns to secure the wraparound sterile gown when it is used.



Assisted Regloving

When a team member other than the scrub nurse contaminates a glove during the surgical procedure, the circulator, using exam gloves so that his or her hands are protected, will grasp the outside of the glove and pull it off inside out. The scrub nurse then regloves the team member as described above in assisted gloving.

The options for the scrub nurse who needs to change gloves are to

- remove both gown and gloves,
- have another team member assist in regloving, or
- use the open-glove technique.

The closed-glove technique cannot be used to reglove. In closed gloving, the hand passes through the cuff of the gown, contaminating the edge of the cuff. This would cause the outside of the new glove to be contaminated.

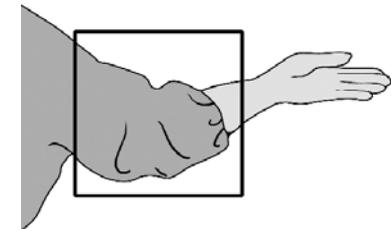
MAINTAINING A STERILE FIELD

The surgical team should take precautions to avoid contamination and maintain the sterile field. The hands should be kept above the waist and in sight at all times. The sterile areas are

- the front of the gown from the table level or sterile field to two inches below the neck,



- the sleeves from two inches above the elbow to the cuff, and
- the surgical gloves.



* The underarms are considered nonsterile.

The back of the gown is not considered sterile even if it is the wraparound style.

If any part of the sterile attire becomes contaminated, immediate corrective steps must be taken (eg, if a glove becomes contaminated or perforated during surgery, it must be changed immediately). Once the original gloves are donned, the gown cuffs should be considered contaminated because the scrubbed hand passed through them.

REMOVING GOWN AND GLOVES

At the end of the procedure, the gown is always removed before the gloves to prevent cross contamination of the wearer's scrub attire. The circulator can assist by unfastening the neck and back closures of the gown. The scrub person²

1. grasps the shoulders of the gown, pulls it downward from the shoulder and off the arms, and turns the sleeves inside out;

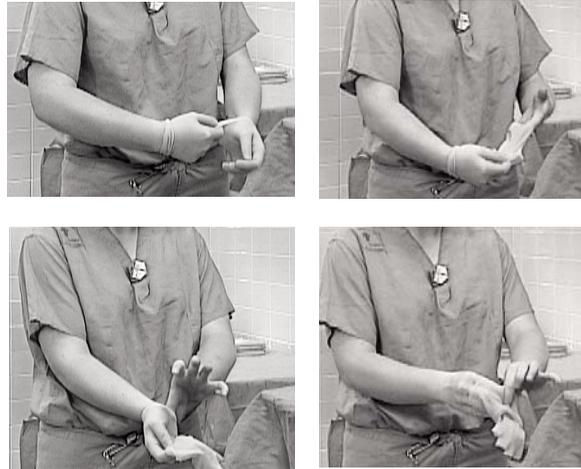


2. folds the contaminated surface of the gown on the inside and rolls it away from the body, and
3. discards the rolled gown in the appropriate receptacle - laundry hamper or trash.

As the gown comes off, it usually turns the cuffs of the gloves down. To remove the gloves, the wearer uses a glove-to-glove and then a skin-to-skin technique. This approach protects the hands from the contaminated glove. The scrub person

1. grasps under the cuff of the left glove with gloved fingers of the right hand and pulls it off inside out;
2. slips the ungloved fingers of the left hand inside the right glove and slips it off inside out;
3. discards the gloves in the appropriate receptacle; and
4. washes hands and arms with soap and water.

Removing the gloves after removing the gown prevents the bare hands from contamination that would occur from handling the soiled gown.



SUMMARY

The aseptic principles for scrubbing, gowning, and gloving prevent contamination to the surgical wound and help control infections. It is the individual responsibility of each surgical team member to conscientiously practice these principles for his or her own safety and the safety and protection of the surgical patients.

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2. NH Fortunato Phillips, *Berry & Kohn's Operating Room Technique*, 10th ed. (St. Louis: Mosby, 2004) 270, 272-275, 278.
3. *Standards, Recommended Practices, and Guidelines* (Denver: AORN, Inc., 2005) 299, 378.
4. LK Groah, *Perioperative Nursing*, 3rd ed. (Stamford, CT: Appleton & Lange, 1996) 210-211, 217.
5. SS Fairchild, *Perioperative Nursing: Principles and Practice*, 2nd ed. (New York: Little, Brown and Company, 1996: 152.
6. JM Boyce, D Pitlet, "CDC Guideline for hand hygiene in health-care settings, *MMWR* 51 (Oct 25, 2002) 1-44.

POSTTEST

1. If any part of the scrubbed hands or arms touches the sink or faucet during scrubbing, the person scrubbing should
 - a. rescrub that area with 10 strokes.
 - b. check with the circulator for instructions.
 - c. restart the scrub from the beginning.
 - d. rescrub that hand and arm.
2. All of the following statements apply when drying the hands and arms except
 - a. bend over slightly from the waist.
 - b. begin drying with the hand and move up the arm.
 - c. dry thoroughly to avoid skin irritation.
 - d. roll the towel before discarding into the appropriate container.
3. The closed-glove technique is used
 - a. only when the hands have never passed through the gown cuffs.
 - b. when regloving without assistance during the procedure.
 - c. to assist a surgeon in donning sterile attire.
 - d. as a method for correcting glove contamination.
4. When a scrub person assists another team member with gowning and gloving, he or she does all of the following *except*
 - a. protect gloved hands by forming a cuff of the neck and shoulder area.
 - b. release the gown when the team member's hands are in the sleeves.
 - c. handle the glove on the inside only.
 - d. always offer the right glove first.
5. The sterile areas of the gown include
 - 1) the front from two inches below the neck to waist or table level.
 - 2) the gloves to two inches above the elbow.
 - 3) the sides from axilla to waist or table level.
 - 4) the back of a swing-back gown.
 - a. 1 and 2
 - b. 1 and 3,
 - c. 1, 2, and 3
 - d. all of the above
6. The use of a brush for surgical hand scrubs is not necessary.
 - a. True
 - b. False
7. During gowning, the circulating nurse assists the scrub person by
 - a. pulling the bottom edge of the front of the gown to eliminate blousing.
 - b. helping to get the creases out of the gowns sleeves by pulling the shoulders up.
 - c. reaching inside the gown and pulling the inside seam.
 - d. all of the above.
8. When taking off the gown at the end of the case, the glove cuffs usually turn down as the sleeves pass off the arms. The wearer removes the gloves using which one of the techniques listed below?
 - a. Pull off by fingers of each glove.
 - b. Glove to glove and then skin to skin.
 - c. Open-glove technique.
 - d. If the gloves are not too dirty, it's your choice how to do it.
9. Recommended scrub methods are
 - a. the counted stroke scrub.
 - b. the anatomic timed scrub.
 - c. the surgical hand rub.
 - d. all of the above.
10. When one or both gloves must be changed without assistance, which one of the following methods listed below should be used?
 - a. double gloving
 - b. open-glove technique
 - c. barehanded gloving
 - d. closed-glove technique
11. When a team member other than the scrub nurse contaminates a glove during the surgical procedure, the scrub nurse will reglove the team member, using which one of the following methods?
 - a. assisted gloving
 - b. reverse gloving
 - c. protected gloving
 - d. open gloving
12. When washing with an antimicrobial agent, how far up the arm do you scrub?
 - a. up to the armpit
 - b. two inches above the elbow
 - c. to the elbow
 - d. four inches above the wrist
13. The purpose of the surgical hand scrub is to
 - 1) remove normal skin flora.
 - 2) sterilize the skin.
 - 3) suppress growth of microorganisms.
 - 4) remove soil and debris.
 - a. 1 and 3
 - b. 2 and 3
 - c. 3 and 4
 - d. all of the above
14. Where should the scrubbed person hold onto his or her gown when lifting it up to don it?
 - a. the sterile exterior of the gown
 - b. the inside seams at armpits
 - c. the inside front of the gown just below the neckband with both hands
 - d. at the waist
15. What motion is used to scrub the palm and back of the hand to the wrist?
 - a. a back-and-forth motion
 - b. a circular motion
 - c. a downward motion
 - d. rotating the arm
16. Resident microorganisms
 - 1) live on the skin surface.
 - 2) are easy to remove.
 - 3) live in hair follicles and sweat glands.
 - 4) are acquired by direct contact.
 - a. 1 only
 - b. 1 and 2
 - c. 3 only
 - d. 2 and 3
17. Appropriate surgical attire for the scrub person includes
 - 1) headgear that covers all hair.
 - 2) protective eyewear.
 - 3) a face mask.
 - 4) shoes that provide protection.
 - a. 1 and 3
 - b. 1, 2, and 3
 - c. 2, 3, and 4
 - d. all of the above
18. It is permissible to scrub without removing rings.
 - a. True
 - b. False
19. Wearing artificial or acrylic nails in the surgical setting is
 - a. permitted if they are in good repair.
 - b. unacceptable because they may harbor microorganisms.
 - c. permitted if polish is less than four days old.
 - d. unacceptable for aesthetic reasons.
20. The scrub person may use the closed-glove method to change one or both gloves if they become contaminated.
 - a. True
 - b. False

Scrubbing, Gowning & Gloving
 Answer Sheet

Question	Answer
1	A
2	D
3	A
4	C
5	A
6	A
7	D
8	B
9	D
10	A
11	A
12	B
13	C
14	C
15	B
16	C
17	D
18	B
19	B
20	B