

临床基本技能

BASIC CLINICAL SKILLS

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PREFACE

Mastery of clinical skills is central to the transformation of a medical undergraduate student into a competent health professional fit for medical practice. Clinical skills include communication skills and procedural skills. Communication skills are defined as including those skills required during doctor-patient interactions and additional communication skills required during interactions with other health professionals. Procedural skills involve an actual physical manoeuvre or intervention which may or may not require specific equipment and which may be undertaken for either diagnostic or therapeutic purposes. Their execution requires both psychomotor skills and background knowledge.

Undergraduate medical education programs are expected to provide learning experiences that will allow each aspiring physician to acquire the knowledge, skills and attitudes deemed appropriate for medical school graduates. The clinical skills education in medical school had been unstructured and unspecified. Rather than stating explicitly the clinical skills the medical student needed to acquire and providing opportunities to learn them, it was assumed that the medical student would acquire them during the course of their clinical rotations. Most students set about trying to learn all of the facts they could learn about the diseases, rather than focusing on acquiring the elementary clinical skills necessary to interact with and manage the care of patients. They clearly did not approach developing clinical skills proficiency with the same intensity and developmental rigor.

This book is more of a brief guide than an exhaustive reference book, to be used as a learning tool mainly in operating theaters and emergency rooms. It focuses on skills for clinical practice. It contains simple lists and diagrams with no superfluous text. It includes a number of skills that are considered essential and your attainment of these skills must be assessed for you to become a registered doctor.

The book provides medical students the opportunity to enhance their skills in collaborative practice with physicians in providing direct patient care and to facilitate the effective use of a systematic approach to clinical problem-solving. Only lots of practice will make perfect.

Due to our limited capabilities, mistakes are probably not evitable during the writing. We sincerely wish that our readers could provide us with their suggestions, so that we can further improve this book in its future editions. You may then contact us using the form: zhuxiaoty@ gmail. com.

Zhu Xiao

Apr 2015

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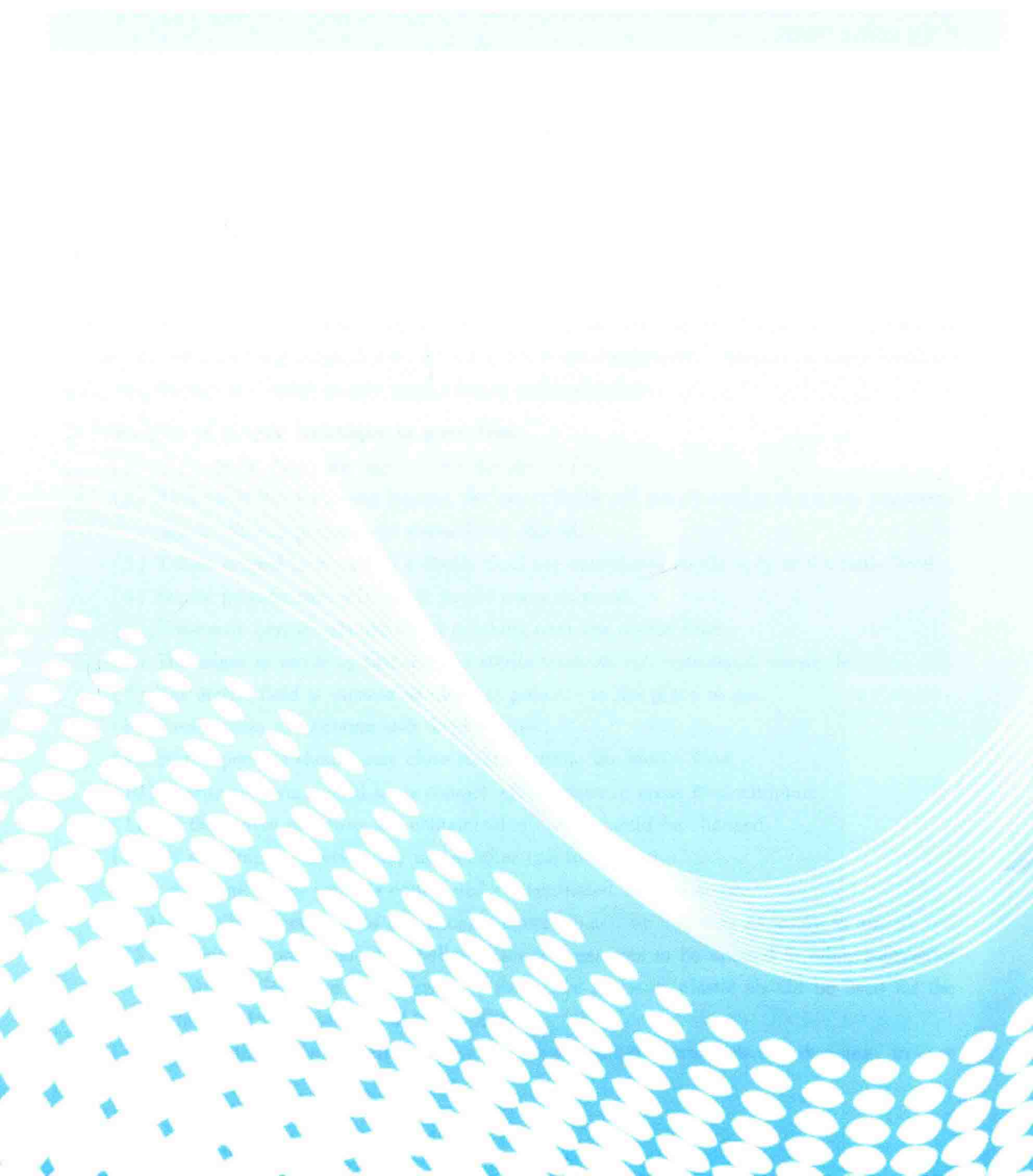
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PART I



ASEPSIS

1.1 Principles of Aseptic Technique in Operation

Asepsis is a measure for the prevention of infection during medical and nursing procedures. Aseptic technique is used to avoid the entrance of pathogenic organisms getting into the vulnerable body site. It includes all those procedures, activities and behaviors designed to keep away the microorganisms (bacteria, fungi, viruses) from patient's body and the surgical wound. In other words, the purpose of asepsis is to prevent the contamination to sterile fields, sterile equipment and the operative site. In a wider sense, the asepsis means such an ideal state when the instruments, the skin and the surgical area do not contain microorganisms. Asepsis includes sterilization, disinfection and strict aseptic manipulation and regulations.

➤ Principles of aseptic technique in operation

- (1) Only sterile items are used within the sterile field.
- (2) As soon as the scrubbing begins, the upper limbs are not allowed to touch any nonsterile object. Sterile persons are gowned and gloved.
- (3) Tables draped as a part of a sterile field are considered sterile only at the table level.
- (4) Sterile persons can only touch sterile items or areas.
- (5) Nonsterile persons should avoid reaching over the sterile field.
- (6) The edges of anything that enclose sterile contents are considered nonsterile.
- (7) The sterile field is created as close as possible to the place of use.
- (8) Sterile areas are continuously kept in view.
- (9) Sterile persons should stay close to and face to the sterile field.
- (10) Sterile persons should keep contact with nonsterile areas to a minimum.
- (11) If the gloves or gowns are contaminated, they should be changed.
- (12) If the drape is moistened, use another one to cover it.
- (13) Anything below waist is considered contaminated and nonsterile.
- (14) A sterile object or field can become contaminated by lingering exposure to air.
- (15) During the operation, if a hollow viscous organ has to be opened or other sources of contamination have to be exposed, protective gauze or plastic should be used for the clean and dirty portions of the procedure.
- (16) Do not finish the operation unless you have counted instruments and dressing, in case

some foreign body remains in the body.

- (17) The opening of the conditioner should not blow towards the operation table in case it stirs the dust up and pollutes the air indoors.

➤ Aims

- (1) Reduce the risk of introducing potentially pathogenic microorganisms into susceptible sites such as wounds, blood or bladder.
- (2) Prevent the transfer of potentially pathogenic microorganisms from one patient to the other.
- (3) Prevent the transfer of pathogens from patient to staff.

➤ Operating theatre

An operating theater, also known as an operating room or operating suite, is a facility in a hospital where surgical operations are carried out in a sterile environment. Historically, the term “operating theatre” is referred to a nonsterile, tiered theater or amphitheater in which students and other spectators could watch surgeons perform surgery. Two types exist: bloodless operations and bloody operations. Layout and equipments of the operating room include (Fig. 1-1): operating lamp, operating table, Sonnenburg’s table, supplementary instrument stand, kick bucket, suction apparatus, diathermy, microwave oven, anesthesia machine and other instruments required during anesthesia. Two types of operating theatres: septic and aseptic ones. In the septic operating theatre, the infected parts of the body are operated. In the aseptic operating theatre, the danger of bacterial infection does not usually exist. The essence of it is, always preparing the surgical area for the patient in a way that we do not put him (or her) in a danger of infection.

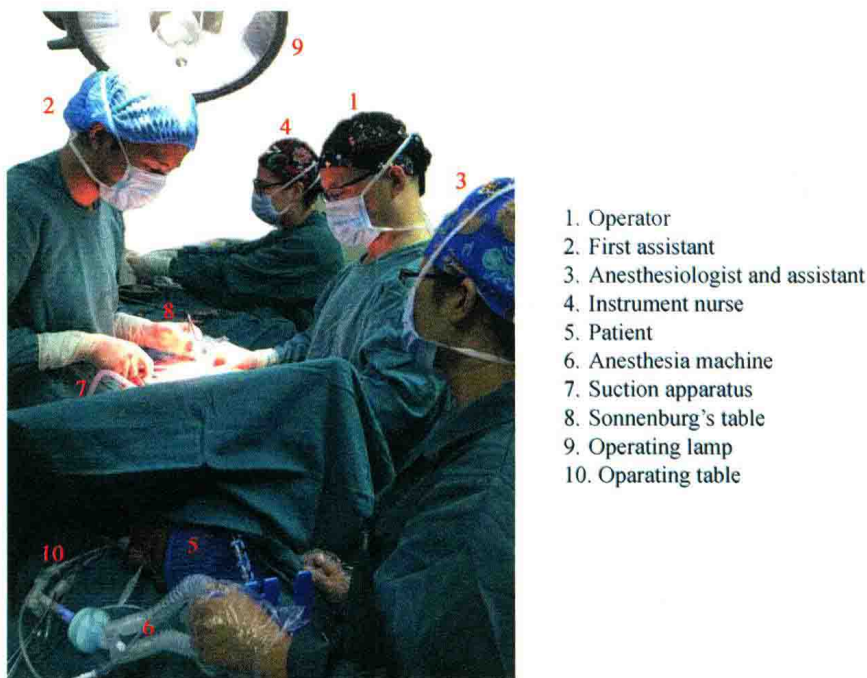


Fig. 1-1 The layout of operating room

1.2 Washing Hand

Handwashing involves six simple and effective steps. The entire procedure needs 40 ~ 60 seconds. Regular handwashing, particularly before and after certain activities, is one of the best ways to remove germs, avoid getting sick and prevent the spread of germs to others. It is extremely important to remove all dirt and contaminants from the skin. Hands and other soiled parts of the body should be cleaned at least at the end of each work period, prior to breaks, or when visiting the toilet. The correct method of cleaning is also important. Developing a good handwashing technique is imperative to ensure hands are thoroughly clean. Particular attention should be paid to the back of the hands and fingertips as these are frequently missed. It is usual to wet hands before dispensing a dose of soap into a cupped hand, however, for heavily soiled hands it is advisable to apply the appropriate specialist hand cleanser directly to the skin before getting wet (Fig. 1-2).

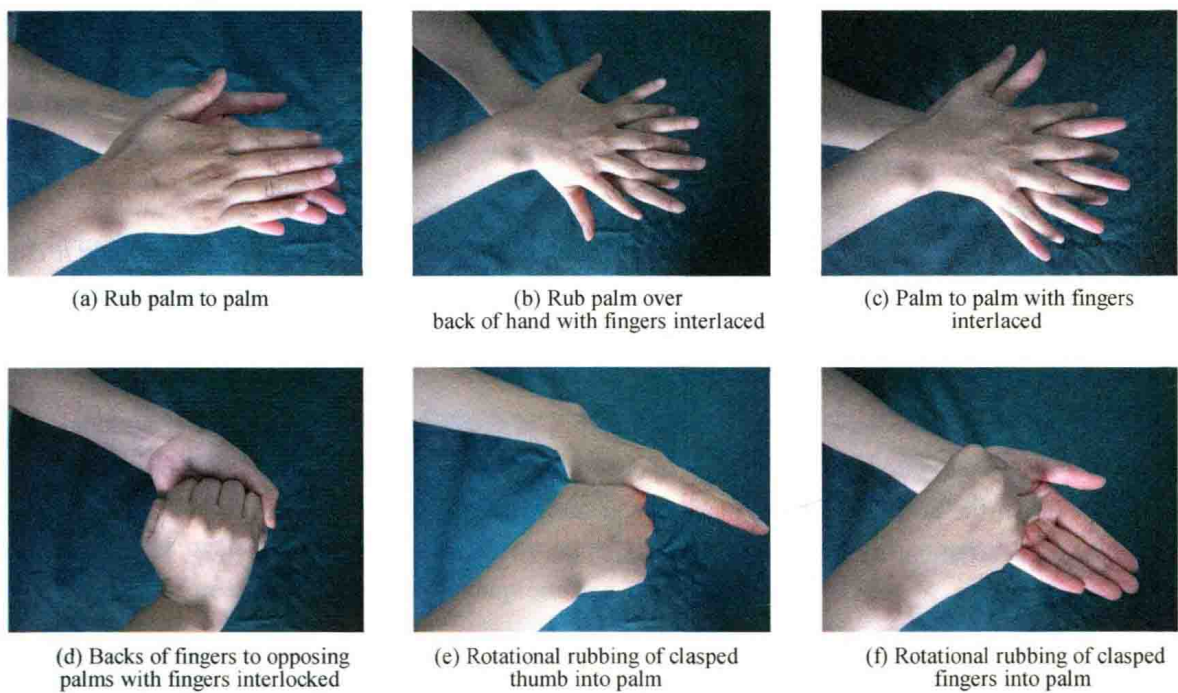


Fig. 1-2 Handwashing technique

1.3 Surgical Masks ,Scrub ,Gown and Glove Procedures

The operator with infective lesions or open wounds of the skin, nails or arms should not attend the operation. Staff with colds, sore throats or systemic infections should not scrub. The fingernails should be shortened, and ensure that they are not visible over the tips of the fingers. Short nails are easy to clean and the smooth nails will not puncture gloves. Rings, watches and bracelets should be removed and kept in a safe place. Every surgical member should wear a

clean, short sleeved cotton scrub suit before entering operating theater. Sleeves of the scrub shirt should be four inches above the elbow. Personnel should wear shoes especially assigned for the surgical suite. Shoes should cover the toes completely.

Mask

Personnel should wear a disposable surgical cap in such a manner so that hair is covered completely to avoid contamination of the sterile field by falling hair or dandruff. A surgical mask is worn primarily to protect the patient from bacteria exhaled by operating room personnel. 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, drop from the nose and mouth can easily pass through it, 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.

Protection of the mucous membranes of the mouth and nose from procedures that involve splashing or spraying of blood, body fluids or bone chips are 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.

➤ Steps to put on a surgical mask

- (1) Wash hands.
- (2) Inspect mask and pay attention to that if the mask is ripped or torn, if torn throw it out and select another one. The part of the mask with a stiff bendable edge is the top. The colored side of the mask usually faces outward, while the white side is against your face.
- (3) Surgical masks have several different types of fasteners. Put the top set of strands over the top of your head and secure them with a bow. The lower strings will be tied later.
- (4) Pinch the stiff edge of the mask, so it molds to the shape of your nose. Pull down the mask's bottom so that it can cover completely your mouth and chin (Fig. 1-3).



Fig. 1-3 Wearing cap and mask

➤ Cleaning agents

Cleaning agents in general can be defined as synthetic substances that used to assist the cleaning process. Cleaning is primarily the removal of dirt and dust. Antiseptic solutions are available in concentrated liquid form in soap dispensers and the standard one in use are chlorhexidine gluconate, povidone-iodine and salt water. These agents are preferable for doing the surgical scrub because the amount of surgical antiseptic solutions detergent needed for a scrub is small enough to leave a minimum number of microorganisms on the skin. They have a prolonged antibacterial effect on the skin if used regularly.

The surgical scrub

The surgical scrub do not sterilize the skin and it is to reduce the number of transient microorganisms on the skin. There should be provision to control water temperature, and a wall clock should be placed to time the scrub procedure when required. A scrub area should be situated between each two operating rooms and should open directly into an operating room. The sinks should be sufficient to minimize splashing. Avoid splashing onto the scrub clothes, the floor, or the hands and arms during the procedures. Containers for surgical detergents placed between each set of taps and care should be taken not to contaminate hands when dispensing soap solution. The pump dispenser should be changed each time and an empty bottle is replaced with a new one or sooner if it becomes blocked.

➤ Principles

The person who is going to do scrub procedures should follow certain principles when performing the surgical scrub.

- (1) Rinsing time is not to be included in the total scrub time.
- (2) Nonsterile objects should not be touched once the scrub procedure begins.
- (3) The entire scrub procedure must be repeated if a nonsterile object is touched.
- (4) The same scrub procedure should be utilized for every scrub procedure whether it is the first or last one of the day, however, subsequent washes should encompass two thirds of the forearms only to avoid compromising the hands.

➤ Scrubbing procedures

- (1) Wash hands and forearms with soap. The flow and water temperature should be set at comfort level. Rinse hands and arms thoroughly.
- (2) Begin with all of nails and cuticles by placing the fingertips together and proceed to the radial, back and ulnar sides of the thumb, the rest fingers, and space between fingers. Make sure to wash each surface, palm, back of hand, heel of hand, wrist and arms, without returning to a previously scrubbed area. Scrub hands extending to 10 centimeters above the elbow (Fig. 1-4).



Fig. 1-4 Without returning to previously scrubbed area

- (3) Allow the water to run from the hands to the elbows. Do not retrace or shake the hands and arms, let the water drip from them (Fig. 1-5). Remove the sterile brush and file from opened package, moisten brush and work up a lather. It is recommended that a scrub should be made for three times and three minutes each time for soap had washing.



Fig. 1-5 Allow the water to run from the hands to the elbow

- (4) Pick up a folded sterile towel from the top of the gown pack and step back from the table. Grasp the towel and open it——do not allow the towel to touch any nonsterile objects or nonsterile parts of the body. Hold hands and arms higher than the elbows, and keep arms away from the body. Hold one end of the towel with one hand, then dry the other hand and arm with a blotting, rotating motion. Work from fingertips to the elbow. Do not allow the towel to retrace any area. Dry all sides of the fingers, the forearm and the arm thoroughly. Grasp the other end of the towel and dry the other hand and arm in the same manner as mentioned above. Discard the towel into the linen hamper from the outside of the elbow (Fig. 1-6). The wrong method of discarding the towel is shown in Fig. 1-7.

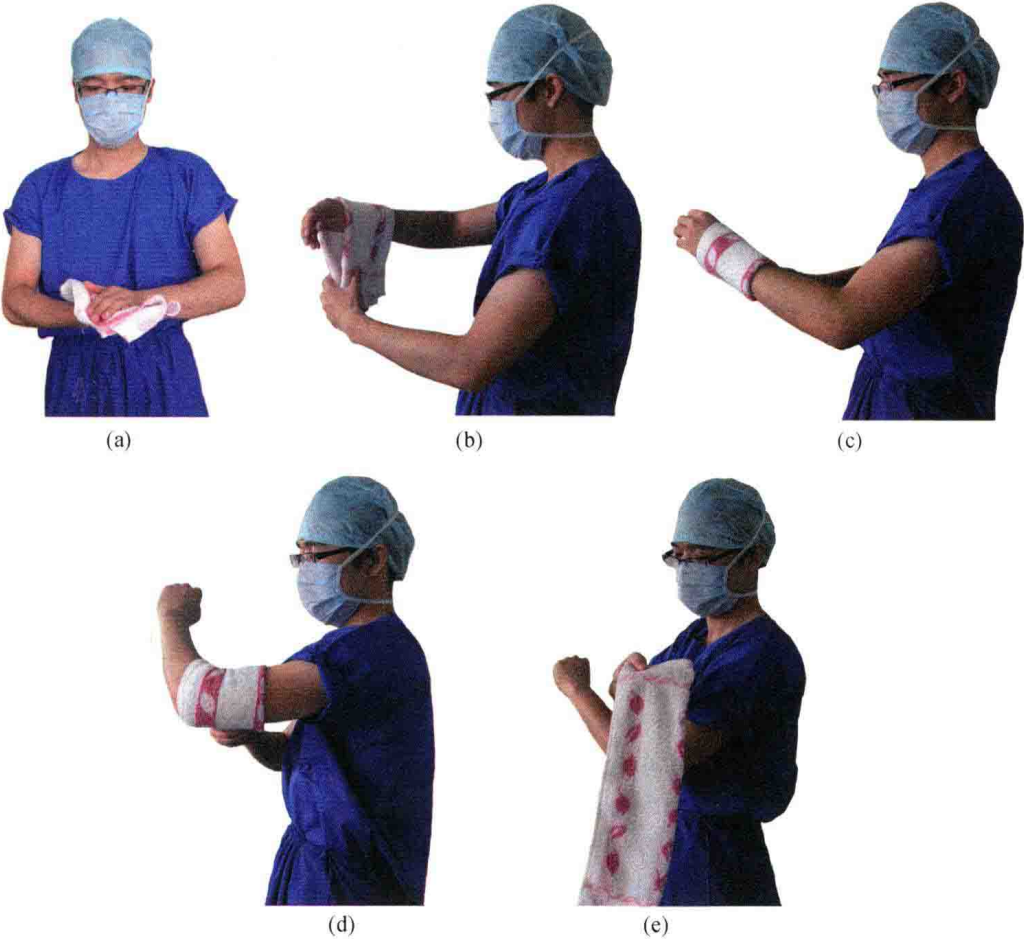


Fig. 1-6 Drying arms by rotating movements



Fig. 1-7 The wrong method of discarding the towel

- (5) Use about 3.0mL fast antiseptis agent to sterilize hands and forearms for one minute.
- (6) The two hands should be kept forward and a bit raised. Do not touch any nonsterile thing (Fig. 1-8).