Operating Well in the O.R.

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Tulane Medical Center
May 8, 2012

MEDICAL STUDENT ORIENTATION
Introduction

The way a person is treated early on is a good indication of how he or she will turn out in later years. The same applies to medicine. If medical students are treated well during their training, chances are they will become compassionate doctors.

At Tulane Medical Center, we take this seriously. By giving medical students a positive experience, we instill in them a sense of respect for the Operating Room team. By collaborating with the medical students’ coordinator, the “Operating Well in the O.R.” program was created for third-year medical students beginning their surgery block. Students get the opportunity to be involved as an active member in the perioperative care of the patients and to see how teamwork has a positive outcome for their patients, as well as themselves.

General Information

The Operating Room is located on the third floor of the Tulane Medical Center. There are five main areas that you will be involved in:

1. General operating room - 14 suites
2. Same day surgery/pre admit department
3. Lithotripsy/cystoscopy department
4. Recovery room (PACU)
5. SICU

The OR is open from 0645 -2300, Monday through Friday with emergent cases done as needed during the day, after 2300 and on weekends. Surgery begins at 0715 Monday through Thursday and at 0800 on Friday.

You are part of the surgical team whose main objective is to provide quality care in a safe environment for patients and staff. Certain tasks seem mundane; however, each of us has a significant role and responsibility to meet this purpose. Since OR’s vary, you are responsible for following the policies and procedures of the hospital to which you are assigned.

Aseptic Practices

Surgical procedures must be done in a manner that minimizes or eliminates the patient’s exposure to exogenous organisms. The principles listed below are to be followed when in the OR.

1. Only sterile items are used within the sterile field. All items must be checked for package integrity, expiration date and sterilization indicator prior to dispensing to the sterile field. **Gown and gloves are to be handed to the circulator to open onto the sterile field.**
2. Items of doubtful sterility must be considered unsterile. If you are told that a break in sterile technique has occurred, do not take it as a personal insult. We have a responsibility to identify this and correct it for the safety of the patient.
3. Sterile individuals touch only sterile items or areas.
4. Scrubbed persons stay close to the sterile field. If they change positions, they turn face to face or back to back with another individual while maintaining a safe distance between themselves and other objects. Movement within and around a sterile area should be kept to a minimum to avoid contamination of the field or the sterile members of the surgical team.

Air is a potential source of microorganisms that can result in a surgical site infection. Air ventilation plays a significant role in microbial contamination. Positive air pressure with a room air exchange rate of 15 exchanges per hour is recommended to reduce non-filtered air from entering the OR suite. Airborne contamination increases with movement of the surgical team. This movement should be kept to a minimum during operative procedures. Each OR door should remain closed except during movement of patients, personnel, supplies and equipment.

Personal Protective Equipment (PPE)

All personnel are required to wear PPE when it can be reasonably anticipated that the individual may come in contact with blood or
other potentially infectious materials. The following PPE are to be used in the Operating Room:

1. **Surgical masks** are worn in the OR and other designated areas (Center Core, Scrub Sink stations) where open sterile supplies or scrub persons may be located. The mask must cover the mouth and nose entirely. Air should pass only through the filtering system of the mask. The mask is tied securely without crossing the strings. They should not be saved from one operation to the next. Masks should be changed in between procedures. They are not to be left dangling around the neck. Touching only the strings of the masks during removal reduces contamination of the hands. Masks should be discarded immediately after removal in a designated receptacle. Hands are to be washed and dried after removal. **Masks are not to be removed until the patient is transported out of the room to the post-operative location.**

2. **Gloves** are to be worn during patient care, when touching blood, body fluids, secretions/excretions, and contaminated items. They are to be changed between tasks and patient procedures, as well as after patient contact. Hands are to be washed after removal and prior to engaging in other activities.

3. **Eye protection** is **MANDATORY!** Eye wear is to be worn any time a patient care activity is likely to generate splashes or sprays of blood or body fluids and secretions/excretions. Eye glasses are no longer enough. If you do not own protective goggles, disposable eye wear is available at the OR front desk or you may wear a face mask with an attached shield.

4. **Gowns** are to be worn any time patient care activity is likely to generate splashes of blood, body fluids or secretions/excretions, to protect the skin and prevent soiling of the clothing. The gown is to be removed immediately after use and hands washed before engaging in other activities or giving care to another patient.

5. **Shoe covers** may be worn to help keep shoes clean and may decrease the amount of soil and bacterial tracking throughout the OR suite.

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**Dress Code**

Personal hygiene, cleanliness and appropriate fitting attire are required of all. Excessive amounts of perfume and cologne are to be avoided. ID badges MUST be worn by all employees and students while on hospital property. Individuals entering restricted and non-restricted areas MUST wear Tulane OR distributed surgical attire which is returned at the completion of the day to the appropriate receptacle. Head and facial hair including sideburns are to be covered. Jewelry should be removed or confined on scrubbed persons. Jewelry with sharp edges or items that dangle is not to be worn. Comfortable shoes that provide protection should be worn. Please refer to the OR Uniform Policy for OR Personnel.

**Fire Safety**

All members of the surgical team have a responsibility to promote a culture of fire safety in the OR. Some estimates suggest that between 50 and 200 surgical fires occur in the U.S. each year, with as many as 20% of reported fires resulting in serious, disfiguring injury or death. Operating Room fires are 100% preventable. Key points to promote safety include the following:

1. Prep solutions are to be used according to manufacturer instructions.
2. Ensure there is no pooling of fluid or soaking of drapes and that prep solution is completely dry prior to draping.
3. Safety practices are followed when controlling heat sources.
4. Oxygen concentration is minimized under drapes.
5. Be aware of the appropriate response to a surgical fire.
6. Be aware of fire extinguisher locations, fire pull and fire exits.

**Surgical Site Preparation**

The surgical principle followed when preparing the patient’s skin for surgery is to prepare the cleanest area first and then move to the less clean areas (CLEAN to DIRTY). The skin prep usually begins at the point of incision and continues to the periphery of the area. A soiled applicator is NEVER brought back over a previously prepped...
When a stoma or other contaminated area is involved in the prep procedure, a sponge soaked in the antimicrobial agent of choice is placed over the stoma when the prep is initiated and at the completion of the prep, the sponge is discarded. Sponges used to cleanse or disinfect an open wound, sinus, ulcer, intestinal stoma, vagina or anus are applied once to that area and discarded. Open wounds and body orifices are potentially contaminated areas and as such are prepared after the peripheral intact skin is cleansed. Once again, the surgical principle is to work from the **CLEANEST TO THE LEAST CLEAN** area!

If hair is to be removed, an electric or battery operated clipper with a disposable head that can be disinfected is the recommended method – **NO RAZORS**.

**Surgical Scrub**

The purposes of surgical hand antisepsis are:

1. to remove dirt, skin oil, and transient microorganisms from the nails, hands and forearms
2. to reduce the resident microbial count to as near zero as possible
3. to leave an antimicrobial residue on the skin to prevent regrowth of microbes for several hours

Rings, watches, body-piercing jewelry and bracelets should be removed before scrubbing. Fingernails of scrub persons should be short, clean, and healthy. Artificial nails or synthetic nails should not be worn.

*Students coming to the OR should develop a good sense of sterile technique. Therefore, it is recommended that all third year students use the traditional hand scrub procedure only. Effective hand scrubbing is achieved by friction, using antimicrobial solutions and leaving a bacteriostatic residue.

Refer to handout “The Surgical Scrub”

**Surgical Gown and Glove**

Refer to handouts “The Surgical Gown Technique” and “The Surgical Glove Technique”

**Your Responsibilities**

Come prepared with the knowledge of the scheduled surgical procedure, anatomy, and patient history. Learn to develop a surgical conscience. Take responsibility for knowing what is sterile and unsterile. Introduce yourself to the patient and surgical team. Provide the circulating nurse with your gown and gloves if you are planning to “scrub in”. Once gowned and gloved, you are to stand on the sterile field side of the room until the patient is draped. While scrubbed in, please **do not lean on the patient** during surgery.

Tasks you will be asked to assist with include:

1. positioning, prepping and possibly draping of the patient
2. retracting, clamping, cutting sutures, and sponging
3. securing the dressing and removing blood and pre-op prep solution off of the patient
4. retrieval of the bed, patient transfer and accompanying the patient to PACU

**REMEMBER:**

Enjoy yourself and learn as much as you can! If you feel uncomfortable with any of the above, make sure to seek assistance. We’re happy to help!