



Centennial Edition

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Manual in
**Operating Room
Nursing**

CNU Publications

Manual in **Operating Room** Nursing

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“And the Lord God caused a deep sleep to fall on Adam, and he slept; and He took one of his ribs, and closed up the flesh in its place.”

Genesis 2:21 NKJV

Preface

This instructional manual was conceptualized to guide nursing students on the basic nursing principles and techniques in the Operating Room. Citing the need of a record book for major, minor and circulating cases, this manual also serves as an evaluative tool for Level III and IV nursing students on their performance in the Operating Room and Post Anesthesia Care Unit.

The manual simply discusses techniques in its most simplified and concise manner to give the learners the chance to grasp various concepts of the operating room scene effectively and conveniently.

The *Manual for **Operating Room** Nursing* is both a textbook and a workbook of learning situations. This book is made available to ensure alignment of Operating Room Techniques applicable in hospitals in the Philippine setting.

In the end, the effectiveness of this book relies heavily to the passion of the learner to come out of the box and read sources relevant to expand his imagination and knowledge of the care of a peri-operative client.

Every student and instructors must read this book because inside every Operating Room Theatres there are no rehearsals.

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The author gratefully acknowledges their gratitude to all who have contributed so cheerfully to the completion of the revised edition of this manual.

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Introduction

The operating theater is a highly specialized area where major and minor surgeries are performed. Surgery encompasses preoperative preparations, intraoperative judgment and management and post operative care of the surgical patients. As one enters the operating room, much preparation is expected from the nursing students. Sterile techniques and concepts such as gowning, gloving, instrument preparation – from back-up table to mayo table, assisting in draping of patients, giving and handling of instruments and sponges, and as well as post operative care in the recovery room are the responsibilities of the student nurses inside the operating theater.

Theories learned in the classroom are translated into actual practice. Nursing students can also observe actual living anatomy, alterations by congenital deformities, diseases, injuries, and its restoration being done by modern surgical technique. A hands-on training of assisting the surgical team is done by the students themselves after their return demonstration.

Qualities of the professional perioperative nurses are needed and used to implement a personalized, patient-oriented care. It is done through creative application of the nursing process, judgment, skills and interpersonal competencies. The surgical team must work together to fulfill the patients needs throughout the perioperative experience.

Chapter 1

In The Beginning

History of Operating Room Nursing

The Christian Scriptures recorded one of the oldest information concerning surgery as found in Genesis 2:21, it was believed and even up to now that the Christian God was the first to perform a surgical procedure.

"Surgery is as old as the human being" according to Linda K. Groah. In some distant past approximately 350,000 B.C., archeologists discovered skulls contain evidences that surgical procedures were performed a long time ago. The Edwin Smith Papyrus was the earliest scientific document dedicated to record history of surgery discovered about 3000 B.C. in ancient Egypt. The book contains accurate observations on anatomy, physiology and pathology.

The specifics of the Operating Room was discussed in the book entitled *On The Surgery* authored by "The Father of Medicine", Hippocrates born about 460 B.C. and successfully wrote 70 books on medicine and surgery. He first coined some items that relates to surgery, instrumentation and potentially recognized the value of using an assistant during surgery.

In 1873, there were three nursing training schools opened in the United States, patterned after Florence Nightingale's school at St. Thomas Hospital in London. They were Bellevue in New York City, the Connecticut Training School in New Haven, and the Boston Training School. The Bellevue Report of 1875 listed lectures on "Surgical Instruments and Preparation for operation", "Bandaging", and "Homeostasis.

In 1889, William H. Welch, William S. Halsted and Sir William Osler set up John Hopkins University in Baltimore to train doctors and nurses. Operating Room Nursing was identified as an area of specialization and thus became nursing first specialty.

In 1891, students were given the responsibility for cleaning and sterilizing instruments for Saturday operations. By 1896, students were sent to assist with Saturday operations.

Soon after the turn of century, due to increase in surgical procedures, a graduate nurse was placed in charge of the surgical amphitheatres and student nurses began to assist regularly with operations and etherizing.

Martha Luce of Boston described duties of an operating room nurse as requiring knowledge of the principles of asepsis, careful attention to details, and much forethought in the preparation of supplies in 1901.

By 1900, the surgeons were wearing sterile scrub suits, surgical scrubs were being performed by all members of the surgical team. Following the scrub, sterile gloves were worn to protect the hands until surgery was started, and then they were removed.

In 1905, it was determined that the skin could not be sterilized so rubber gloves were worn throughout the procedure and recommended that the instrument nurse wear a sterile gown.

Around 1907, the use of head coverings was advocated and by 1914, the use of surgical masks for surgeons, assistants, and the sterile nurse was gaining acceptance.

It was during the two decades that the role of the circulator and the scrub nurse began to emerge and surgeon insists that the scrub nurse be the senior member of the nursing team.

However, by 1910, nursing authorities agreed that the nurse who remains unsterile, or circulates, runs the operating room and must be the senior nurse. The role of the scrub nurse could be performed by a student if necessary.

In 1920 – 1940 students spent part of their training in the operating room and were expected to function effectively. There were no available curriculum guides available to identify how a nurse should be trained.

In 1927, the American Journal of Nursing published an article entitled "The Operating Supervisor and Her Qualifications." The operating room supervisor was to show "a high sense of responsibility to the patient, the peculiarities of the surgeon, and to instruct young nurses.

In 1919, the "Operating Room Technique" was added to the standard curriculum by the National League of Nursing Education and was not considered mandatory.

In 1933, the Subcommittee on Surgical Nursing of the Education Committee of the National League for Nursing Education standardized the level of nursing care in the operating room.

By 1940, the number of graduate and student nurses was declining because of "The Depression" resulting in decrease patient census, decreased number of nurses employed and forced closure of Nursing Schools.

In the period 1941 – 1945, Orderlies are used as circulators in lieu of nurses left hospitals to join the Armed Forces for World War II. The term "*operating room technician*" was created to those personnel trained to assist in surgery and was taught by Army and Navy nurses.

World War II resulted in reorganization in hospitals, such as the development of centralized sterile and reprocessing departments and the increased use of nonprofessionals to perform tasks formerly identified as nursing responsibilities.

In the period 1946 to 1960, because of World War II there were shortage of professional and practical nurses, many hospitals hired operating room technicians to fill vacancies in operating rooms. It was during these post war years that nursing educators began to doubt whether the operating room rotation was essential to the learning experience of the student nurse thus resulting to the elimination of the operating room rotation. In January 1949, 17 operating room supervisors from New York identified the need for an organization to meet routinely to pool knowledge and exchange ideas on their area of specialization. The result was the formation of the Association of Operating Room Nurses (AORN). For several denied attempts of the AORN to affiliate with the National League For Nursing Education and the American Nurses Association, in 1957, they became an independent national organization. The future development of operating room nursing as a specialty would be synonymous with the growth of AORN.

In 1965, AORN, ANA and the National League for Nursing met to recommend standards and guidelines for selection, instruction, and training of operating room technicians the manual was called "*Teaching the Operating Room Technician*" in 1967.

In 1969, the objective of clinical practice of professional operating room nursing was identified: "*To provide a standard of excellence in the care of the patient before, during and after surgical intervention.*"

In 1975, AORN formulated a statement of policy indicating that the circulator must at all times be the professional registered nurse. AORN and ANA collaborated on the development of the "*Standards of Nursing Practice: Operating Room.*"

In the years 1980 to 1990, hospitals administrators discovered that ambulatory surgery provided care of equal quality at much lower cost. In 1980, the House of

Delegates adopted a statement on the Role of the First Assistant that in the absence of a qualified physician, the registered nurse who possesses appropriate knowledge and technical skills is the best qualified nonphysician to serve as the first assistant.

Nursing research gained momentum during the 1980's and perioperative nurses conducted researches to test the body of knowledge used in implementing patient care and to validate the recommended practices. ¹

The Future of Perioperative Nursing

The Role of the professional operating room nurse has expanded beyond the confines of the surgical suite; however, a new role may emerge in the future. This new role might appropriately be titled "Perioperative Nurse Practitioner." He will provide the preoperative care performing patient assessments, obtaining baseline laboratory data, and referring abnormal data to the physician for diagnosis and treatment. Intraoperatively the perioperative nurse practitioner will have the clinical responsibility of the first assistant, or will function as the scrub or circulating nurse. Postoperatively, the nurse practitioner will provide routine postoperative care, evaluate outcomes, and prior to discharge, will provide routine postoperative care, evaluate patient outcomes, and prior to discharge, will provide the necessary education, to the patient and significant others. ²

Surgical intervention will continue to expand its technical base by the application of the laser beam and high end computers. Offshore surgical operation on remote operating rooms is now being developed in First World and highly developed countries. The use of technology has inspired Rozanno C. Locsin, a Filipino middle – range nursing theorist, to formulate a model for nursing practice which he calls "Technological Competency as Caring in Nursing."

Perioperative nursing will continue to be a vital link between technical advances and effective humanistic care in a variety of nontraditional settings.

End Notes Citation

^{1,2} Colmer, Malcolm R. 1996. Surgery for Nurses. 16th ed. USA: Churchill Livingstone.

Chapter 2

Let's Go Legal!

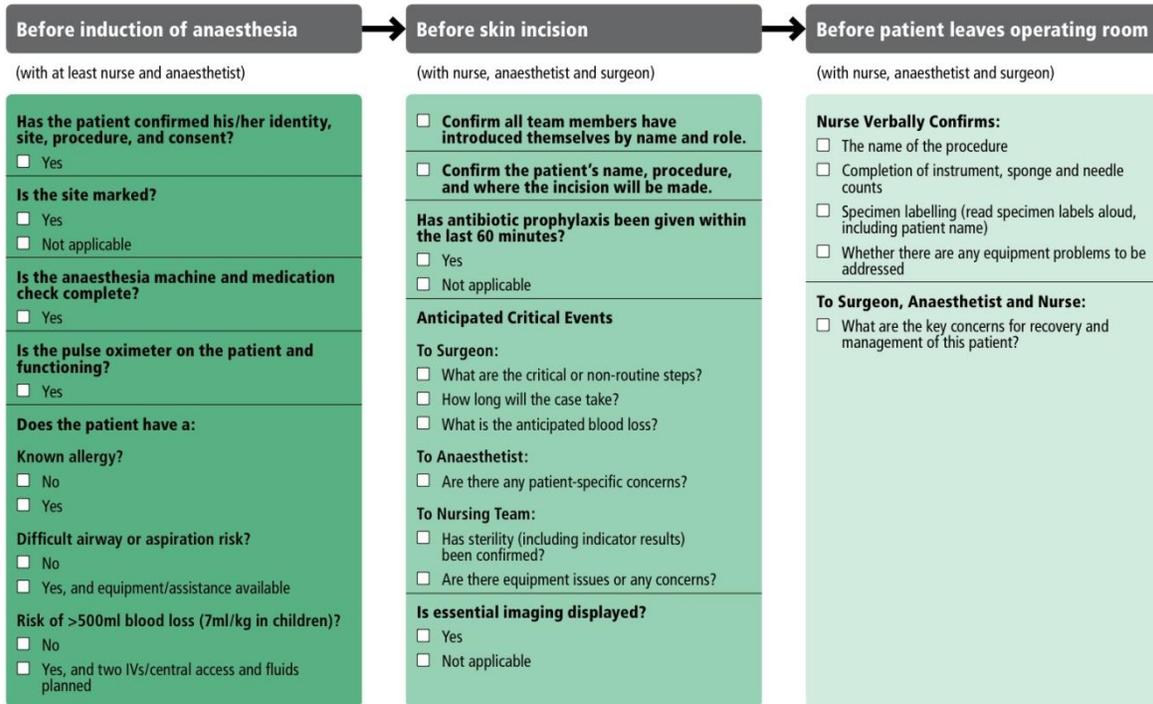
WHO Protocol

Surgical Safety Checklist



World Health Organization
A World Alliance for Safer Health Care

Patient Safety
A World Alliance for Safer Health Care



This checklist is not intended to be comprehensive. Additions and modifications to fit local practice are encouraged.

Revised 1 / 2009

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Figure 1 Surgical Safety Checklist

The **Safe Surgery Saves Lives** programme was established by WHO Patient Safety as part of the World Health Organization's efforts to reduce the number of surgical deaths across the globe. The aim of the programme is to harness political commitment and clinical will to address important safety issues, including inadequate anaesthetic safety practices, avoidable surgical infection and poor communication among team members. These have proved to be common, deadly and preventable problems in all countries and settings. To assist operating teams in reducing the number of these events, WHO Patient Safety—in consultation with surgeons, anaesthetists, nurses, patient safety experts and patients around the world—has identified ten essential objectives for safe surgery. These were compiled into the WHO Surgical Safety Checklist. The aim of this Checklist is to reinforce accepted safety practices and foster

better communication and teamwork between clinical disciplines. The Checklist is intended as a tool for use by clinicians interested in improving the safety of their operations and reducing unnecessary surgical deaths and complications. Its use has been demonstrably associated with significant reductions in complication and death rates in diverse hospitals and settings, and with improvements in compliance to basic standards of care.

Is the anesthesia machine and medication check complete?

The Checklist coordinator completes this next step by asking the anaesthetist to verify completion of an anesthesia safety check, understood to be a formal inspection of the anaesthetic equipment, breathing circuit, medications and patient's anaesthetic risk before each case. A helpful mnemonic is that, in addition to confirming that the patient is fit for surgery, the anesthesia team should complete the ABCDEs – an examination of the Airway equipment, Breathing system (including oxygen and inhalational agents), suCtion, Drugs and Developments and Emergency medications, equipment and assistance to confirm their availability and functioning.

Is the pulse oximeter on the patient and functioning?

The Checklist coordinator confirms that a pulse oximeter has been placed on the patient and is functioning correctly before induction of anesthesia. Ideally the pulse oximetry reading should be visible to the operating team. An audible system should be used to alert the team to the patient's pulse rate and oxygen saturation. Pulse oximetry has been highly recommended as a necessary component of safe anaesthesia care by WHO. If no functioning pulse oximeter is available, the surgeon and anaesthetist must evaluate the acuity of the patient's condition and consider postponing surgery until appropriate steps are taken to secure one. In urgent circumstances to save life or limb this requirement may be waived, but in such circumstances the team should be in agreement about the necessity to proceed with the operation.

Does the patient have a known allergy?

The Checklist coordinator should direct this and the next two questions to the anaesthetist. First, the coordinator should ask whether the patient has a known allergy and, if so, what it is. If the coordinator knows of an allergy that the anaesthetist is not aware of, this information should be communicated.

Does the patient have a difficult airway/aspiration risk?

The Checklist coordinator should verbally confirm that the anesthesia team has objectively assessed whether the patient has a difficult airway. There are a number of ways to grade the airway (such as the Mallampati score, thyromental distance, or Bellhouse-Doré score). An objective evaluation of the airway using a valid method is more important than the choice of method itself. Death from airway loss during anesthesia is still a common disaster globally but is

preventable with appropriate planning. If the airway evaluation indicates a high risk for a difficult airway (such as a Mallampati score of 3 or 4), the anesthesia team must prepare against an airway disaster. This will include, at a minimum, adjusting the approach to anesthesia (for example, using a regional anaesthetic, if possible) and having emergency equipment accessible. A capable assistant—whether a second anaesthetist, the surgeon, or a nursing team member—should be physically present to help with induction of anesthesia. The risk of aspiration should also be evaluated as part of the airway assessment. If the patient has symptomatic active reflux or a full stomach, the anaesthetist must prepare for the possibility of aspiration. The risk can be reduced by modifying the anesthesia plan, for example using rapid induction techniques and enlisting the help of an assistant to provide cricoid pressure during induction. For a patient recognized as having a difficult airway or being at risk for aspiration, induction of anesthesia should begin only when the anaesthetist confirms that he or she has adequate equipment and assistance present at the bedside.

Does the patient have a risk of >500 ml blood loss (7 ml/kg in children)?

In this safety step, the Checklist coordinator asks the anesthesia team whether the patient risks losing more than half a litre of blood during surgery in order to ensure recognition of and preparation for this critical event. Large volume blood loss is among the most common and important dangers for surgical patients, with risk of hypovolaemic shock escalating when blood loss exceeds 500 ml (7 ml/kg in children). Adequate preparation and resuscitation may mitigate the consequences considerably. Surgeons may not consistently communicate the risk of blood loss to anesthesia and nursing staff. Therefore, if the anaesthetist does not know what the risk of major blood loss is for the case, he or she should discuss the risk with the surgeon before the operation begins. If there is a significant risk of a greater than 500 ml blood loss, it is highly recommended that at least two large bore intravenous lines or a central venous catheter be placed prior to skin incision. In addition, the team should confirm the availability of fluids or blood for resuscitation. (Note that the expected blood loss will be reviewed again by the surgeon before skin incision. This will provide a second safety check for the anaesthetist and nursing staff.)

Before skin incision

Before making the first surgical incision, a momentary pause should be taken by the team in order to confirm that several essential safety checks are undertaken. These checks involve all team members.

Confirm all team members have introduced themselves by name and role

Operating team members may change frequently. Effective management of high risk situations requires that all team members understand who each member is and their roles and capabilities. A simple introduction can achieve

this. The coordinator should ask each person in the room to introduce him or herself by name and role. Teams already familiar with each other can confirm that everyone has been introduced, but new members or staff that have rotated into the operating room since the last operation should introduce themselves, including students or other personnel.

Confirm the patient's name, procedure and where the incision will be made

The person coordinating the checklist or another team member will ask everyone in the operating room to stop and verbally confirm the name of the patient, the surgery to be performed, the site of surgery and, where appropriate, the positioning of the patient in order to avoid operating on the wrong patient or the wrong site. For example, the circulating nurse might announce, "*Before we make the skin incision*", and then continue, "*Does everyone agree that this is patient X, undergoing a right inguinal hernia repair?*" The anaesthetist, surgeon and circulating nurse should explicitly and individually confirm agreement. If the patient is not sedated, it is helpful for him or her to confirm the same as well.

Has antibiotic prophylaxis been given in the last 60 minutes?

Despite strong evidence and wide consensus that antibiotic prophylaxis against wound infections is most effective if serum and/or tissue levels of antibiotic are achieved, surgical teams are inconsistent about administering antibiotics within one hour prior to incision. To reduce surgical infection risk, the coordinator will ask out loud whether prophylactic antibiotics were given during the previous 60 minutes. The team member responsible for administering antibiotics – usually the anaesthetist – should provide verbal confirmation. If prophylactic antibiotics have not been administered, they should be administered now, prior to incision. If prophylactic antibiotics have been administered longer than 60 minutes before, the team should consider redosing the patient. If prophylactic antibiotics are not considered appropriate (e.g. cases without a skin incision, contaminated cases in which antibiotics are given for treatment), the "not applicable" box may be checked once the team verbally confirms this.

Completion of instrument, sponge and needle counts

Retained instruments, sponges and needles are uncommon but persistent and potentially calamitous errors. The scrub or circulating nurse should therefore verbally confirm the completeness of final sponge and needle counts. In cases with an open cavity, instrument counts should also be confirmed to be complete. If counts are not appropriately reconciled, the team should be alerted so that appropriate steps can be taken (such as examining the drapes, garbage and wound or, if need be, obtaining radiographic images).

Specimen labelling (read specimen labels aloud, including patient name)

Incorrect labelling of pathological specimens is potentially disastrous for a patient and has been shown to be a frequent source of laboratory error. The

circulator should confirm the correct labelling of any pathological specimen obtained during the procedure by reading out loud the patient's name, the specimen description and any orienting marks.

Whether there are any equipment problems to be addressed

Equipment problems are universal in operating rooms. Accurately identifying the sources of failure and instruments or equipment that have malfunctioned is important in preventing devices from being recycled back into the room before the problem has been addressed. The coordinator should ensure that equipment problems arising during a case are identified by the team.

Surgeon, anaesthetist and nurse review the key concerns for recovery and management of this patient

The surgeon, anaesthetist and nurse should review the post-operative recovery and management plan, focusing in particular on intraoperative or anaesthetic issues that might affect the patient. Events that present a specific risk to the patient during recovery and that may not be evident to all involved are especially pertinent. The aim of this step is the efficient and appropriate transfer of critical information to the entire team. *With this final step, the WHO Checklist is completed. If desired, the Checklist can be placed in the patient record or retained for quality assurance review.*

Evaluating surgical care

Monitoring and evaluation of outcomes is an essential component of surgical care. Many facilities and departments already engage in this process; additional data collection is neither recommended nor encouraged if such a system is already in place and proves useful to the clinicians and staff as a means of improving the quality of care. However, in hospitals where results of surgical care are not routinely tracked and postoperative complications are not recorded, or where surveillance mechanisms have not been sufficient to identify poor practices, WHO highly recommends that a monitoring system be established. In particular, as a means of surgical surveillance at hospital and practitioner levels, death on the day of surgery and postoperative in-hospital deaths should be collected systematically by facilities and clinicians. When combined with operative volume, such information provides departments of surgery with day of- surgery and postoperative in-hospital mortality rates.

Mortality rates can help surgeons identify safety shortfalls and provides guidance to clinicians for improvements in care. In addition, for those facilities with the capacity and ability to do so, surgical site infection rates and the Surgical Apgar Score are also important outcome measures. In addition to deaths and complications, process measures can also be incorporated into the evaluation system and may help identify safety lapses and areas for improvement. Improved compliance has been associated with better outcomes and may identify weaknesses in the system of care delivery. A few

suggestions for measurement, even on an intermittent basis, are the frequencies of compliance with:

- Marking of the operative site by the surgeon
 - Performance of an anesthesia safety check of the machine and medications
 - Use of pulse oximetry throughout administration of anesthesia in all cases
 - Objective evaluation of the airway
 - Use of sterility indicators to ensure adequacy of sterility practices
 - Administration of prophylactic antibiotics within one hour before skin incision
 - Verbal confirmation of patient, site and procedure immediately before incision with all team members present
 - Preoperative team briefing to discuss clinical concerns, operative plan, and other critical issues
 - Post-operative team debriefing to discuss problems during the case and concerns for recovery and management of the patient
- Use of the WHO Surgical Safety Checklist has demonstrably improved compliance with basic standards of surgical care in diverse hospitals around the world. While the relationship between adherence to standards and decreases in complication rates is likely multifactorial, improving the safety and reliability of surgical care can save lives and promote confidence in the health system. ²

Let Me Sign

It is an established practice in hospitals that before a patient is submitted to an operation, his consent thereto or the approval of his parents, relative, or guardian is first obtained. Since the nurse is the person who usually attends to the matter of securing the patient's signature on the form for giving consent to surgery, it is all important to an attending nurse, whenever a patient under her care is to be operated on, to see to it that the patient affixes his signature on the prescribed form without necessary delay, or that her parent or guardian signs the proper approval form, as the case may be. A form called "*Operating Permit*" is usually provided by the hospital for the purpose. ²

As part of the nurse's legal responsibilities to a surgical client, she has to make sure that "*Operating Permit*" or "*Informed Consent*" is signed. The common practice in the Philippines regarding the procurement of the "*Operative Permit*" wherein the nurse will take the signed consent is actually a wrong intervention. Surgeons are the one to obtain the "*Operative Permit*" and provide the patient the thorough explanation of the surgical procedure, alternatives, possible complications, benefits and disfigurements or removal of body parts are explained. The nurse's role is an active client advocate to confirm that the client understands the information provided by the surgeon.

Informed Consent is necessary in the following situations such as:

- a. Invasive procedures (e.g. surgical incision, biopsy, cystoscopy etc)
- b. Surgical procedures that require the use of sedative agents or anesthesia.
- c. A non-surgical procedure, such as arteriography.
- d. Procedures that involves the exposure to radiation. ³

The purpose of Informed Consent is to ensure that the client is not undergoing a procedure without an informed consent and helps protect the team from liability.

Who can sign an “*Operative Permit*”?

An adult client, over 18 years old signs his own permit except when he is unconscious or mentally incompetent to decide for one’s own care. If the client in a given circumstances cannot sign his own consent, a relative maybe a spouse or next of kin and a guardian will sign in his behalf. In emergency situations, it is wise to have a 2nd listener to obtain permission via a telephone. A telegram is also acceptable. Consent is not needed in an emergency situation if all four of the following criteria are present:

1. There is an immediate threat of life
2. Experts confirm that there is an emergent need for surgery.
3. Client is unable to provide consent and,
4. In some situations that a legally authorized person cannot be located or reached in any means.

Minors, who are under 18 years old, must have consent signed by an adult preferably a parent or a legal guardian. Clients who are under 18 years of age (Emancipated Minor) but are married or earning independently his living can sign his consent.

Witnesses to the procurement of this important legal form can done by a nurse, another M.D., clerk or any other authorized person. The nurse witnessing the informed consent specifies whether witnessing explanation of surgery or just signature of the client.

The “*Operative Consent*” should have the following components:

- a. Clients full name
- b. Doctor Performing the surgery
- c. The Purpose
- d. Risks
- e. The clients signature

These components should only be affixed with a black ink only.

In some circumstances the surgeon proceeds with the operation without the needed consent, the nursing administration should be notified immediately and the nurse should make notation or documentation outside the chart to protect her if the case will go to court. The nurse is also obligated to inform the physician about the situation to prevent unwanted law suits. ⁴

What Does the Law Say?

In the Nursing Act, a nurse, in the performance of nursing services, shall be responsible for the utilization on the nursing process, which includes among others, the implementation of nursing care. ¹

Legal awareness is such an important aspect of caring. Being aware of the existing law protects the nurse and the student nurse for any lawsuits in the caring of surgical clients. Such awareness would include the following concepts:

Doctrine of "*res ipsa loquitur*" – the thing speaks for itself. When a thing has caused the injury is shown to be under the management of the party charge with negligence, and the accident is such as in the ordinary course of things will not happen if those who have such management use proper care, the accident itself affords reasonable evidence, in the absence of explanation by the parties charged, that it arose from the want of proper care.

Doctrine of "*respondeat superior*" – let the superior answer; let the principal answer for the acts of his agent.

Liability for Sponge left in patients abdomen - who has the responsibility of seeing to it that all sponges placed in the abdomen of a patient undergoing an abdominal surgery are removed before the incision is closed? Will the surgeons instruction requiring the attending nurse to count the sponges used in the operation and to check the number of those removed after the operation make the nurse liable for the patients injury resulting from a sponge inadvertently sewed up in his abdomen after the operation?

The surgeon has the power and the duty to direct the nurses to count the sponges as part of his work in the opening and closing of the patients abdomen and in putting in and taking out of sponges, and it his responsibility to see that the work is done. He cannot relieve himself of liability by any custom or rule requiring the nurses to count the sponges used and removed. The surgeon in absolute charge of and who is directing the operation is responsible for the

negligent act of his assistants in failing to remove a sponge from the patient's abdomen.

Liability for a safety pin left in patient's abdomen – Where a safety pin was left in a patient's abdomen during an operation, who should be liable for the damages for injuries received by the patient as a result of such negligence? The doctors were in complete charge of what occurred to plaintiff's person and, therefore, the principle (*res ipsa loquitur*) is applicable. The only way such an inference of negligence could have been fully refuted was to prove conclusively that the pin was put there in such a manner that the doctors should not have known about it or discovered it in the exercise of reasonable care.

Liability for negligence of a surgical nurse – Will the surgeons be liable to the patient for any negligent act of the head nurse with respect to the services performed by her and made use of by them in the performance of the operation? In the performance of the operation, the hospital permitted the surgeons and the surgeons consented, to use its general employees to assist the surgeon in the performance of the operation. While the nurse and her assistants were the general employees, they were nevertheless, during the time required for the actual operation, under the direction and the supervision of the operating surgeons in respect to such services as were rendered by them in the performance of the operation, and for any negligence on the part of such employees in the performance of such services the operating surgeons are liable. The true test of the existence of the relation of master and servant in a given case does not depend upon whether the servant was in general employee of the master, but upon whether the master actually exercises supervision and control over the servant during the time he uses such servant.

Liability for rupture of surgery wound – A nurse left the room of her patient for a few minutes in order to get a fresh binder to replace the one that had been removed from the patient. While she was away, the patient coughed and as a result, his surgery wound ruptured. Under such a situation, will the nurse be liable for the negligence? Sufficient evidence must be provided by the plaintiff concerning the function of the binder. We cannot say that the function of the binder and the advisability of its use are matters that are 'well established and authoritatively settled, without qualification or contention,' accordingly, the matters must be established by expert testimonies. It should be proven that the binder would have prevented... the coughing so as to prevent the wound from opening or that the coughing was the proximate cause of the wound opening; or that the presence of the nurse would have prevented the wound from opening once the coughing started.

Nurse as a witness – Information obtained in a professional capacity. A person authorized to practice medicine, surgery, or obstetrics cannot in a civil case,

without the consent of the patient, be examined as to any information which he may have acquired in attending as to any information which he may have acquired in attending such patient in a professional capacity, which information was necessary to enable him to act in that capacity, and which would tend to blacken the character of the patient. ⁵

The Killer OR Nurse – Guilty of Manslaughter

In the Philippine history of surgical nurses, one named Lorenza Somera was famously known as the killer nurse. Was she really a killer or an innocent victim of a crime she has not committed? Below is a narration of the whole story by Carl Scheffel and Eleanor MacGarvah in their book entitled *Jurisprudence for Nurses*.

Sometime in May , 1928, one Pedro Clemente took his daughter, Anastacia Clemente, who was below fourteen years of age, to one Dr. Gregorio Favis of Manila for treatment. After examining her, the doctor decided that she should undergo a tonsillectomy, to which the father agreed. So he instructed the father and his daughter to go to the St. Paul's Hospital on May 26th, where he would perform the operation at 7:00 o'clock in the morning. Dr. Favis then called up Sister Mercedes of St. Paul's Hospital and requested her to have the intended operation fixed on said date and hour. He also informed her that he would follow the same orders given in previous cases of tonsillectomy performed in the hospital. The head nurse in the operating room in the morning of May 26th was one Lorenza Somera. Valentina Anday and Consolacion Montinola were student nurses working in the operating room under Somera. Montinola was the sterilizing nurse and Dr. Armando Bartolome was the assistant.

On the day set for the operation, Dr. Favis arrived at the St. Paul's Hospital a little before 7:00 o'clock A.M. After scrubbing his hands and examining the patient, he asked for a ten per cent cocaine solution with adrenalin and with it swabbed the patient's throat. The sterilized table was prepared, with solutions and other needed articles. Dr. Favis asked his assistant, Dr. Bartolome, for the novocaine solution. Thereupon, Montinola handed to Dr. Bartolome a syringe filled with solution and in turn, Dr. Bartolome handed it to Dr. Favis, who then injected it to the patient. A few minutes later, Dr. Favis asked for more solution, which he injected again to the patient. After the second injection, Dr. Bartolome noticed that the patient became pale and acted as if she was dizzy, to which he called Dr. Favis' attention. Dr. Favis said that the same was not unusual and he then asked for a third syringe of the solution, which he again injected to the patient. A few moments later, the patient showed symptoms of convulsions to which Dr. Bartolome again called Dr. Favis attention. Thereupon, Dr. Favis ordered adrenalin and then injected it to the patient. A second injection was administered and the patient again showed signs of convulsions. After a few moments, the patient died. Dr. Favis then asked if the novocaine was fresh. Somera replied that it was not novocaine but a 10% solution of cocaine.

At the trial before the Court of First Instance of Manila, Consolacion Montinola, when questioned by the prosecution on direct examination, affirmed that she did not know who prepared the drug; that she heard Dr. Favis ordered cocaine with adrenalin for injection; and that, likewise, she heard Somera verified the order. When questioned by the defense, Montinola again testified that she heard the order was given and

verified. Even on the part of the prosecution, the evidence had brought out the fact that Dr. Favis ordered 10% cocaine solution for injection and that Somera verified said order.

The decision on the case was rendered by the Trial Court on May 7, 1929. In its decision the Court absolved Dr. Favis and Dr. Bartolome of the crime of which they were accused, but declared Somera guilty of the crime charged in the complaint and condemned her

1. To suffer imprisonment for one year and one day
2. To indemnify the heirs of the deceased Anastacia Clemente in the sum of one thousand (1,000) pesos, with subsidiary imprisonment in case of insolvency
3. To suffer further the accessories provided in Article 61 of the Penal Code, and
4. To pay one third of the costs.

Somera appealed to the Court.

On December 20, 1929, the Supreme Court affirmed the aforesaid decision, stating as follows: *"Wherefore, finding the decision of the lower court to be in accordance with the facts and the law, it is confirmed in all respects, with cost against the appellant."*

In view of the recommendation of two of the justices of the supreme Court who reviewed the case upon the appeal of the counsel of the defense, the unanimous recommendation of the Board of Pardons, and the petition of the Philippine Nurses Association for executive clemency, the Governor-General remitted the part of the sentence which called for prison confinement provided that Lolrenza Somera would not, in the future, Violate any of the penal laws of the Philippines.⁶

The case was known all throughout the surgical community and as a reminder that each member of the team must be aware of the legal perspective that is a part of the job as a nurse. ⁷

End Notes Citation

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Chapter 3

The Perioperative Nursing Care

Definition of Terms

Surgery - it is the branch of medicine concerned with diseases and conditions which require or are amenable to operative procedures. Surgery is the work done by a surgeon.

Surgeon - a physician who treats disease, injury, or deformity by operative or manual methods. A medical doctor specialized in the removal of organs, masses and tumours and in doing other procedures using a knife (scalpel).

Sterile - free from living germs or microorganisms.

Antiseptics - is a substance that prevents or arrests the growth or action of microorganisms either by inhibiting their activity or by destroying them. The term is used especially for preparations applied topically to living tissue.

Sterilization - the destruction of all living microorganisms, as pathogenic bacteria, vegetative forms, and spores.

Perioperative Nursing - connotes the delivery of patient care in the preoperative, intraoperative, and postoperative periods of the patient's surgical experience through the framework of the nursing process.

Prefixes and Suffixes

Prefixes and suffixes can explain the type of procedure the client will undergo:

Prefixes

- supra – above; beyond
- ortho – joint
- chole – bile or bladder
- encephalo - brain

Suffixes

- oma - tumor; swelling
- otomy - cutting into
- scopy - looking into
- itis - inflammation of ¹

Classification of Surgery

According to Degree of Risk

- Major - high degree of risk.
 - maybe complicated / prolonged, large losses of blood may occur, vital organs maybe involved, post-op complications may be likely. (e.g. Caesarean Section, Craniotomy etc.)
- Minor - involves minimal alteration in body parts; often designed to correct deformities;
 - involves minimal risk compared with major procedures. (e.g. suturing, debridement, excision of mass etc.)

According to Purpose

- Elective - performed on the basis of client's choice; not essential and may not necessary for health.
- Urgent - necessary for client' health, may prevent additional problem from developing (e.g. tissue destruction); not necessarily emergency.
- Emergent - must be done immediately to save life or preserve function of body part.
- Required - has to performed at some point; can be pre-scheduled.
- Diagnostic - allows confirming diagnosis.
- Corrective - excision or removal of diseased body part.
- Reconstructive- restore function or appearance to traumatized or malfunctioning tissues.
- Procurement for transplant- removal of organs and/or tissues from a person pronounced brain death for transplantation into another person.
- Constructive- restores function lost or reduced as result of congenital anomalies.
- Cosmetic- Performed to improve personal appearance.

Extent of Surgery

- Simple- Only the most overtly affected areas involved in the surgery.
- Radical- Extensive surgery beyond the area obviously involved; is directed at finding a root cause.

Location

- Based on the area of the body on which the surgery occurs (e.g abdominal, heart surgery).²

Four basic pathologic conditions that require surgery

- Obstruction - a blockage; are dangerous because they block the flow of blood, air, CSF, urine & bile through the body.
- Perforation - is a rupture of the organ, artery or bleb.
- Erosion - break in the continuity of tissue surface. It can be caused by irritation, infection, ulceration or inflammation. It can damage the walls of blood vessels resulting in serious bleeding.
- Tumors - abnormal growth of tissue that serves no physiologic function in the body.

Surgical Settings

Surgical procedures may be performed depending on the type of surgery in either of the following settings. Be it inpatient or outpatient setting.

- Surgical suites
- Ambulatory care setting
- Clinics
- Physician offices
- Community setting
- Homes

End Notes Citation

¹ Black, Joyce M. and Esther Matassarini-Jacobs. 1993. Medical-Surgical Nursing a Psychophysiologic Approach. 4th ed. Vol 1&2. Philadelphia: W.B. Saunders Company.

² Anide, Cypress Y. 2008. Operating Room Nursing Essentials (A Direct Operating Room Background Orientation with Basic Instrumentation) For Nurses and Student Nurses. 5th edition. Ermita, Manila: Educational Publishing House.

Chapter 4

The Preoperative Nursing Phase

Preoperative - begins with the decision for surgical intervention and ends with transfer to the OR.

Preoperative Teaching

Preoperative Teaching - promotes patient satisfaction

- Research demonstrates that those who are informed about the surgery will have:
 - decreased anxiety
 - better recovery
- Best time to teach is in the afternoon or evening before surgery.

General Principles of Preoperative Teaching:

1. Reinforce what the patient has been told about surgery. Know enough basic information about common procedures to anticipate and answer the common questions.
2. Balance telling too little versus too much.
3. Avoid anxiety-producing words -- "pain" (discomfort)
4. Include family members, if possible.
5. Let the patient explain; do return demonstrations.
6. Prepare patient for O.R. situations (cold, bright light, never left alone, etc.).

Patient Teaching about Postoperative Care:

- reduces apprehension and fear
- increases participation in postoperative care
 1. Therapeutic devices: FBC, NGT, chest tube, JP drain; hemovac, etc.
 2. Medications for Pain: analgesic; PCA device
 3. Ambulation
 4. Postoperative self-care procedures: DBE, splinting, leg exercises, turning schedule.

Deep Breathing Exercises and Incentive Spirometry - Promotes optimal lung expansion and consequent blood oxygenation after anesthesia.



Figure 2 Diaphragmatic breathing

- Instruct the client that a sitting position gives best lung expansion for coughing and deep breathing exercises.
- Tell the client to breathe deeply three times, inhaling through nostrils and exhaling slowly through pursed lips.
- Deep breathing exercises should be performed every 2 hours.

Coughing and Splinting Exercises

Coughing exercise promotes the removal of chest secretions and splinting minimizes pressure and control pain.

- Tell the client to interlace the fingers and place the hands over the proposed incision sites, this will act as a splint during coughing preventing thus harm to the incision site.
- Lean forward slightly while sitting on bed.
- Breathe using the diaphragm.
- Inhale fully with the mouth slightly open.
- Let out three or four snap “hacks.”
- Then with mouth open, take in a deep breath quickly give 1 or 2 strong coughs.

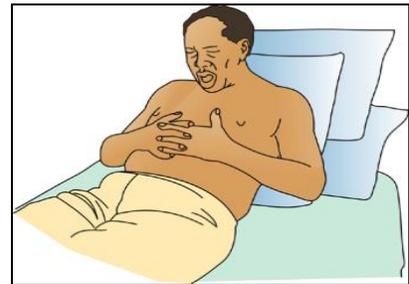


Figure 3 Splinting when coughing

Secretions should be readily cleared from the chest to prevent respiratory complications.

Turning Exercise

Changing the positions from back to side-lying (and vice-versa) stimulates circulation, encourages deeper breathing, and relieves pressure areas preventing tissue breakdown.

- Clients should be instructed to turn positions every 2 hours during the postoperative period.
- Assist the patient to move onto side if assistance is needed.
- Place the uppermost leg in a more flexed position than that of the lower leg and place a pillow comfortably between legs.
- Ensure that the patient is turned from 1 side to back and onto the side every 2 hours.

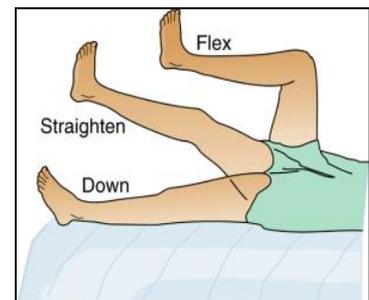


Figure 4 Leg Exercises

Extremity Exercise

- Gastrocnemius (calf) pumping – instruct the client to move both ankles by pointing the toes up and then down.

- Quadriceps (thigh) setting – instruct the client to press the back of the knees against the bed and then relax the knees; this contracts and relaxes the thigh and calf muscles to prevent thrombus formation.

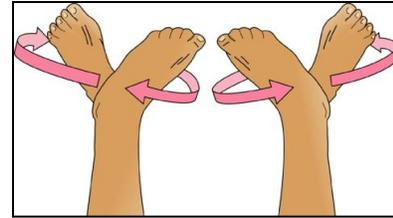


Figure 5 Foot Exercises

- Foot Circles – instruct client to rotate each foot in a circle.
- Hip and Knee movement – instruct the client to flex the knee and thigh to straighten the leg and hold the position for 5 seconds. Contraindicated for clients with abdominal surgery or with back problems.

Psychological Reactions to Surgery

Stress – surgery is a stressor in all areas of functioning, physiologic and psychologic.

Preoperative Anxiety - is a normal adaptive response.

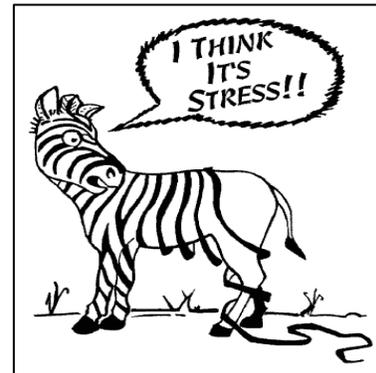


Figure 6. I Think Its Stress

- Mild to marked anxiety: may be expressed as fear.
- Measures to decrease anxiety:
 - Establish rapport with the patient to decrease feelings of depersonalization.
 - Humor (sometimes)
 - Explain the preoperative and postoperative nursing care to decrease fear of the unknown.
 - Explain that anxiety is a normal reaction.
 - Enlist patient's active participation in learning and practicing postoperative activities to give control over the environment.
 - When teaching include family and significant other to promote support.
- Fear of the Unknown:
 - Patient enters an environment in which they have very little control.
 - Nursing Care:
 - Promote an atmosphere where they are free to ask questions.
 - Start "Discharge teaching" the moment they are admitted to decrease this problem.
 - Give them as much control as possible (Ex. "Would you like the IV on your right or on your left?")

- Coordinate information since patient is frequently not comfortable asking the surgeon questions. If nurse is unable to answer the question, they must secure the information for the patient.
 - Avoid additional anxiety and not give too much information. Sometimes avoidance is the best defense mechanism.
- Other fears:
 - Pain: Chemical substances are released and nerve endings are stimulated which cause pain, ischemia and distension.
 - Death: psychologic threat of death may be frightening
 - Anesthesia: afraid of what they may disclose, awakening during surgery or not awakening after. Allay their fears, anything said is confidential, but rarely say anything (too sleepy).
 - Disfigurement and Altered Sexuality: If self-perception is affected, patient will experience a grief reaction.
 - Separation and change in roles: feel support systems have lessened.

Preoperative Medications

Preoperative medications are given to help the patient manage preoperative anxiety, decrease secretions in the respiratory tract, reduce reflex irritability, relieve pain and lower the body's metabolism so that less anesthetic is required. In general, heavy smokers, alcoholics, and hyperthyroid, toxic, and emotional patients all have a higher metabolic rate and require higher doses of medication. Conversely, debilitation and age usually reduce the need for and increase the side effects of the premedication. The side effects are confusion, restlessness, decreased respirations, hypotension, nausea, vomiting, and uncomfortably dry mouth and lips.

To ensure adequate action of the drugs, the medication should be administered 45 to 60 minutes prior to induction or as ordered by the anesthesiologist. Patients medicated preoperatively must be assessed and continually observed during the preoperative period.

Sedative, Hypnotics and Tranquilizers

- Decrease anxiety
- Provide sedation
 - Nembutal (pentobarbital sodium)
 - Vistaril (hydroxyzine)
 - Valium (diazepam)
 - Phenergan (promethazine)

- Versed (midazolam)

Narcotics

- Relieve pain or discomfort
 - Demerol
 - MS
 - Dilaudid
 - Fentanyl
 - Check for respiratory depression

Anticholinergics

- Decreases secretion of saliva and gastric juices;
- Prevents bradycardia
 - Atropine Sulfate
 - Robinul
 - Scopolamine
 - Check blood pressure and heart rate
 - Dry mouth, drowsiness, urinary hesitancy

Antiulcer (Histamine H2 Antagonists)

- Prevent aspiration pneumonitis
 - Ranitidine (Zantac)
 - Cimetidine (Tagamet)
 - Famotidine (Pepcid)

Antiemetics

- Increase gastric emptying
- Decrease Nausea and Vomiting
 - Metoclopramide (Reglan)
 - Droperidol (Inapsone) ¹

Preparation for Surgery

Psychological Support

- Assess client's fears, anxieties, support systems and patterns of coping.
- Establish trusting relationship with client and significant others.
- Explain routine procedures, encourage verbalizations of fears and allow client to ask questions.
- Demonstrate confidence in surgeon and staff.
- Provide for spiritual care if appropriate.

Physical Preparation

- Nursing Activities:

- Perform a thorough assessment of the client and necessary laboratory request are done.
- Diet: NPO after midnight in order to allow time for the stomach to empty, decrease aspiration or at least 4-8 hours. Remove food and water from the bedside at midnight. Inform caretakers, SO, and all other family members of the client's NPO status.
- Skin Preparation: decreases bacteria to a minimum. The use of mild antiseptic such as iodine cleanser on the night or on the day before the scheduled surgery. Mechanical shaving can increase skin bacteria. The best practice is to refrain from hair removal unless it interferes with the surgical procedure or wound closure. If hair is removed, it should be done so near to the surgical time.
- Bowel & Bladder Preparations: If the client is to have abdominal surgery, an enema or laxative or both may be prescribed the night before surgery. Prepare to insert a Foley Catheter in place, it should be emptied immediately before surgery and the amount and quality of urine output documented.

On the Day of Surgery

1. Awaken 1 hour before surgery for pre-operative medications.
2. Morning bath and mouth care
3. Provide a clean gown
4. Remove hair pins, braid long hair, and cover hair with cap.
5. Remove dentures, foreign materials, colored nail polish, hearing aids, glasses and contact lens.
6. Take baseline vital signs before pre-op meds.
7. Check ID band
8. Check for special orders: enema , gastric tube, IV line
9. Have client void before pre-operative medications.
10. Continue to support emotionally
11. Accomplish the "Pre-op Checklist"

Surgical Checklist

Shows that the patient is ready for transfer to the Operating Room.

1. Ensure that the client is wearing an ID bracelet.
2. Assess for allergies
3. Review the preoperative checklist to be sure that each item is addressed before the client is transported to surgery.
4. Ensure that informed consent forms were signed for the operative procedure, for any blood transfusion, for disposal of limb, or for surgical sterilization procedures.
5. Ensure that the history and Physical Exam were completed and documented in the client's record

6. Ensure that consultations prescribed were completed and documented in the client's record.
7. Ensure the prescribed laboratory results are documented in the client's record
8. Ensure that ECG and Chest radiograph reports are documented in the client's record.
9. Ensure that a blood type and screening test and cross match is performed and documented in the client's record.
10. Remove jewelry, makeup, dentures, hairpins, nail polish, glasses and prosthesis.
11. Document that valuables were given to the client's family members or locked in the hospital safe.
12. Document the last time the client ate or drank
13. Document that the client has voided prior to surgery
14. Document that the prescribed pre-op meds were given.
15. Monitor and document client's vital signs
16. Preoperative medications are given to allay anxiety, to decrease pharyngeal secretions, to reduce side effects of anesthetic agents and to induce amnesia.
17. Prepare to administer preoperative medications as prescribed, or on call to the OR immediately before surgery
18. Inform the client that he/she will drowsy shortly after the medications are administered.
19. Turn off bright lights to avoid glare.
20. After administering pre-op meds, keep the client in bed with the side rails up.

21. Place the call bell next to the client and instruct client not to get out of bed, and to call for assistance if needed. ³

1. Patient's name: _____ Date: _____ Height: _____ Weight: _____			
Identification band present: _____			
2. Informed consent signed: _____ Special permits signed: _____			
3. Surgical site: _____ (Ex: Sterilization)			
4. History & physical examination report present: _____ Date: _____			
5. Laboratory records present: _____			
CBC: _____ Hgb: _____ Urinalysis: _____ Hct: _____			
6.	<u>Item</u>	<u>Present</u>	<u>Removed</u>
a.	Natural teeth	_____	_____
	Dentures; upper, lower, partial	_____	_____
	Bridge, fixed; crown	_____	_____
b.	Contact lenses	_____	_____
c.	Other prostheses—type: _____	_____	_____
d.	Jewelry:		
	Wedding band (taped/tied)	_____	_____
	Rings	_____	_____
	Earrings: pierced, clip-on	_____	_____
	Neck chains	_____	_____
	Any other body piercings	_____	_____
e.	Make-up	_____	_____
	Nail polish	_____	_____
7.	Clothing		
a.	Clean patient gown	_____	_____
b.	Cap	_____	_____
c.	Sanitary pad, etc.	_____	_____
8.	Family instructed where to wait? _____		
9.	Valuables secured? _____		
10.	Blood available? _____	Ordered? _____	Where? _____
11.	Preanesthetic medication given: _____		
		Type _____	Time _____
12.	Voided: _____	Amount: _____	Time: _____ Catheter: _____
	Mouth care given: _____		
13.	Vital signs: Temperature: _____	Pulse: _____	Resp: _____ Blood Pressure: _____
14.	Special problems/precautions: (Allergies, deafness, etc.): _____		
15.	Area of skin preparation: _____		
16.	_____		Date: _____ Time: _____
	Signature: Nurse releasing patient		

Figure 7 Surgical Checklist

Legal Preparation

The nurse's legal preparation includes checking if the Operative Permit is signed. The nurse functions as an active witness during the signing of the consent form and makes sure that consent are taken from a client not under sedation. Operative Permit is discussed in Chapter 1. Let's Go Legal Section.

Chapter Activity

1. Identify at least 5 priority nursing diagnosis for a preoperative surgical client who is for abdominal surgery.
2. Create a possible health teaching to client who is for eye surgery.
3. What are the different OR phases and its applications?
4. Research and present in the class a sample of an OR Legal case.

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- Figure 6 Bucher, J. 2010. Turn Stress into Success. Date Retrieved: June 9,
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Chapter 5

The Intraoperative Nursing Phase

Begins when the patient is transferred onto the OR table and ends with admission to Post Anesthesia Care Unit.

Historical Perspective of Asepsis

The history of surgical asepsis is as old as civilization. In the book Leviticus in the Old Testament, Moses identified quarantine regulations and sanitary practices to be used when disposing of wastes, touching unclean objects, and treating leprosy.

The ancient Egyptians used herbs and drugs as antiseptics in embalming bodies.

Surgery was far more advanced in Babylonia, where the Code of Hammurabi was established. The code listed the penalties that had to be paid by unsuccessful surgeons.

The Greek philosophers contributed the concept of the “doctrine of humors.” The humors were blood, black bile, yellow bile, and phlegm.

Hippocrates (460 – 370 BC) recognize the importance of cleansing his hands prior to performing surgery, and he used boiling water for irrigating wounds.

Marcus Terentius Varro (117 – 26 BC), expanded the germ theory of disease in *Rerum Rusticarum* and stated “small creatures, invisible to the eye, fill the

atmosphere, and breathed through the nose cause dangerous disease”.

Ambroise Pare (1517 – 1590) – proved that tying blood vessels was a better method of stopping hemorrhages than cauterizing with hot oil or iron, and he recognize the importance of keeping wounds clean.

Fracastorius published *De Contagione* in 1546 which identified the existence of airborne pestilence.

Anton van Leeuwenhoek in 1683 developed the microscope.

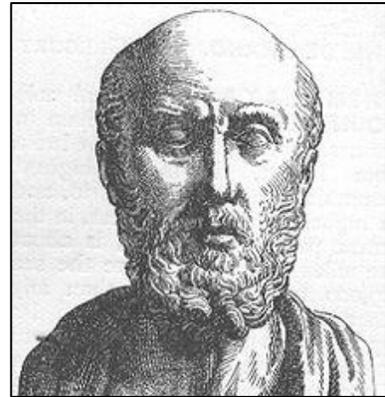


Figure 8. Hippocrates

Louis Pasteur (1822 – 1895) gave the name germs and according to him these were carried by the air and could be destroyed by heat or other means.

Lord Joseph Lister (1827 – 1912) an English surgeon, the “Father of Antiseptic Surgery” experimented in using carbolic acid to soak dressings, sponges, and instruments and to spray the environment. As a result, these were followed in the nurse’s preparation for surgery.

Robert Koch and Wolffhugel in 1881 to 82, introduced steam sterilization.

Thomas Watson, a physician in 1843 first suggested covering for the hands. J. von Mikuliez-Radecki the first to wore cotton gloves.

William Stewart Halsted introduced but not invented the rubber gloves. He also introduced wearing of caps.

Mikuliez or Paul Berger, either, first wore gauzed face mask in 1896 or 1897.

The operating room gown appears to have originated in Italy in the mid-1800s.

Thus, the methods to achieve aseptic technique have evolved since Lister first introduced the use of carbolic acid. However, the basic objective remains unaltered: to prevent infection by eliminating microorganisms. ¹

Principles of Asepsis

1. All articles used in the operation have been sterilized previously. Some articles such as linen, gauze and basins may be obtained from the supply room. Instruments preceding the operation are removed directly from the sterilizer to the sterile table.
2. Persons who are sterile will only touch the sterile articles. All supplies for the sterile team members are served by the circulating nurse aseptically.
3. If in doubt about the sterility of anything consider it non sterile. For example:
 - If sterile – appearing package is found in a sterile workroom.
 - If uncertain about the sterile indicator tape.
4. Non – sterile persons should avoid reaching over a sterile field; sterile persons must avoid leaning over an unsterile area.
5. Tables are sterile only at table level.
6. Gowns are considered sterile only from waist to shoulder level and in front including the sleeves.

7. The edge of anything that encloses sterile contents is not considered unsterile.
8. Sterile persons should only be within the sterile area. They should allow a wide margin of safety when passing unsterile areas rules for passing should be observed.
 - Sterile persons stand back at a distance from the operating table when draping the patient.
 - Should pass each other back to back.
 - A sterile person turns his back to a non-sterile person or area when passing.
 - A sterile person faces a sterile area when passing it.
 - A sterile person should not wander around the operating room.
9. Sterile persons keep in contact with sterile areas to a minimum.
 - They do not lean on sterile tables and on draped patient.
 - They keep nurse's and doctor's table far enough so that their gowns will not brush the tables.
10. When bacteria cannot be eliminated from a field they must be kept to a minimum. It is recognized that perfect asepsis in an operative field is not absolute.
11. Surgeon makes an effort to sponge only once for mopping, then discards it into a pail or kidney basin.
12. Moisture may cause contamination. When moisture soaks through sterile area to a non-sterile one or vice versa, it provides a means of transporting bacteria to the sterile area.
 - Sterile packages are laid on dry areas.
 - If sterile package becomes damp or wet, it is re-sterilized or discarded.
 - Drapes are placed on a dry field.
 - If a solution soaks through a sterile area and to a non-sterile one, the wet area is covered with another sterile drape.
 - A towel is placed on the bottom of an instrument tray before placing the instruments to absorb the moisture and to permit the tray to be set on the sterile table.
 - Linen packages from the sterilizer are permitted to cool before being placed on the shelves to prevent from becoming damp from the steam condensation when in contact with a cold shelf.\
13. The skin cannot be sterilized. The skin of the patient is a source of possible contamination in every operation. However, this does not eliminate the necessity for strict aseptic technique. Defenses within the tissue and the body as a whole usually can overcome these organisms. The hands and the area of sterile team can also be a source of contamination. All possible means are used to keep these bacteria to a minimum and to prevent any of them from gaining entrance to the wound including the following:

- The patient's skin on the operative area is given a preliminary shave and scrub and is scrubbed again in surgery.
 - In draping, all skin area is covered except the site of the incision. A plastic drape may be used as the first drape and the incision made through it.
 - All surgeons scrub their hands and arms.
 - They should be careful not to touch the hand towels on their scrub suits while drying their hands.
 - The knife used for the skin incision is in the specimen basin, which thereafter is considered contaminated on the inside.
 - After skin incision is made, skin towels should cover all the skin as possible. The towels may be omitted when a plastic drape is used.
 - If a needle or other instruments prick the glove, the glove is changed at once and the needle or instruments discarded from sterile field.
 - Short scrub between cases can be done to remove bacteria that have been emerging from the pores within perspiration under the glove.
14. Some areas cannot be scrubbed. When operative field includes the mouth, nose, throat, or anus, the number of bacteria is great. Various parts of the body are usually able to prevent bacteria that normally inhabit these parts. However, an endeavour is made to reduce the number of bacteria that are present at these areas and to prevent infection.
- The operative area is cleaned and the surrounding skin is scrubbed. Example, the nose and the face are prepared prior to subcutaneous resection.
 - Surgeons make effort to use a sponge only once for mopping, then discard it into a pail or kidney basin.
 - The scrub nurse empties the kidney basin by touching only the outside of it.
 - The gastrointestinal tract, more especially the colon, is contaminated.
15. Infected areas are grossly contaminated. The team avoids scattering the contamination. ²

The Operating Room

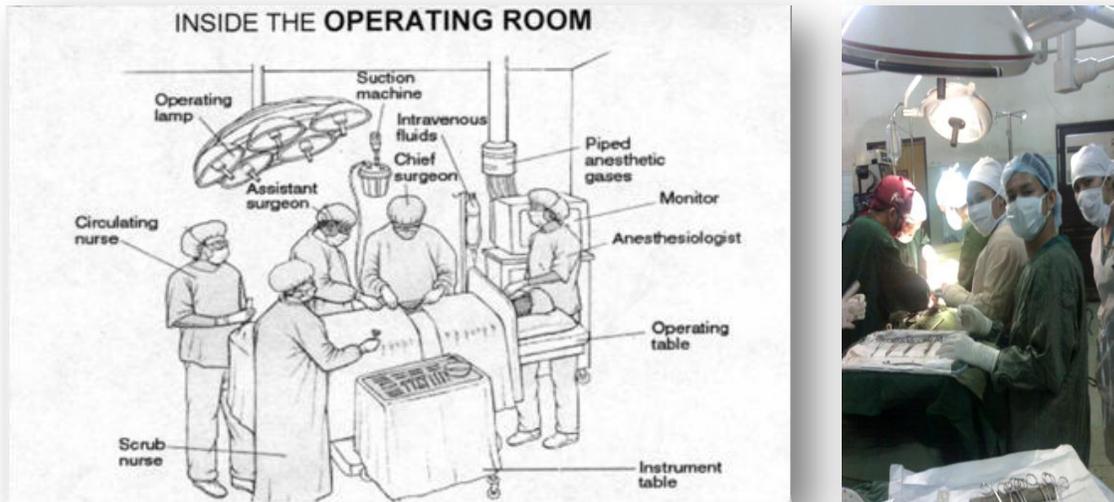


Figure 9 inside the Operating Room

It is very important that the perioperative nurse understands the design and the construction of the operating room or the surgical suite, as this will aid in the effective and efficient use of the facilities.

The construction of the surgical suite should be;

- Isolated from the mainstream of corridor traffic in the hospital. The suite should be adjacent to the recovery rooms and in an area easily accessible to central supply, pathology, radiology, blood bank, and critical areas.
- Traffic control design is aided by the three-zone concept
 - Unrestricted Area: patient reception area, locker rooms, lounges and offices.
 - Semirestricted Areas: storage areas for clean and sterile supplies, work areas for storage and processing of instruments, and corridors to restricted areas of the suite.
 - Restricted Area: all areas where personnel are required to wear surgical mask.
- Four Basic design of the surgical suite:
 - Central corridor or hotel plan – effective only 2 or 4 operating rooms are required
 - Double corridor or clean core plan – results in a U-shape or T-shape architectural arrangement and is used in designing 5 to 15 operating rooms.
 - Peripheral corridor or race track – provides a corridor around the surgical suite and a clean central core where instrument packs are

prepared and from which distribution of materials to the rooms occurs.

- Grouping, cluster, or pod plan – widely accepted in designing large surgical suites.
- The design of the operating room should allow two, three, or four rooms to share a substerile area and scrub facilities.
- The material used must be able to withstand repeated washings with germicidal cleaners. Floors, walls and ceilings should be fire-resistant, hard, smooth and nonporous surfaces. The only requirement for color is none glaring.
- Ideally, doors in the operating room should be of the sliding variety. Air turbulence could be created by swinging doors and prevents microorganism to become airborne. Doors are kept closed to maintain positive pressure inside the operating room.
- General room illumination is provided by incandescent or deluxe cool white fluorescent lamps. The surgical light should be a single-post ceiling-mounted unit.
- X-ray view boxes should be recessed into the wall and located in the line of vision of the surgeon standing at the operating table.
- It is advisable to have rigid or retractable ceiling service columns to prevent electrical hazards.
- In the event of power failure, an electrical generator must provide emergency power within 10 seconds.
- Additional fixed equipments – microscopes, x-ray tubes, image intensifiers, cryosurgery units and various other pieces of equipment.
- Furniture and equipments should be made of a conductive material and have conductive castors or conductive tips.
- Standard equipments may include: Operating Room Table, Mayo Stand, Back Table, Overhead table (Gerhardt Table), Ring Stand, Kick Buckets in wheeled bases, linen and waste hamper frames, sitting tools, standing platforms or steps, additional small tables, poles or hangers for IV solutions, anesthesia machine & desk area.
- Other areas of an operating room - Scrub room, Central Processing Area or workroom, storage areas, housekeeping facilities, surgical waiting room and signage.
- Communication system in the operating room should be capable of differentiating between a routine call and call requiring emergency assistance. The system should have a foot or knee switch as well as a hand switch.
- Music has long been recognized as a form of therapy in managing physical and emotional illness, the disadvantage is the distraction, for this reason it is important that each speaker have an on/off switch and a volume control. Music should be played while patients are under

anesthesia as musical vibrations have an effect on the subconscious mind.

Members of the Surgical Team



Figure 10 Members of the Surgical Team

Patient – the most important member of the surgical team. May feel relaxed and prepared, or fearful and highly stressed. Is also subject for risks.

Surgeon - Performs the surgical procedure and heads the surgical team (licensed physician). Assumes responsibility for all medical acts of judgement and management.

Surgical Assistants - handles tissues. Provide exposure at

the operative field, suturing, and maintaining homeostasis. Must be aware of the objective of the surgery. Must have knowledge and ability to anticipate needs. Must be able to handle any emergency situation in the OR. Works with the primary surgeon during the surgery.

Anesthesiologist - A physician specifically trained in the art and science of anesthesiology.

- Assesses patient before surgery and an hour prior to induction of anesthetics.
- Administers the anesthetic agent and monitors the patient's physical status throughout the surgery.
- Intubate the patient if necessary.
- Manage any technical problems related to administration of the anesthetic agent.
- Supervise the patient condition throughout the surgical procedure.

Orderlies – assist in the transport of the patient, cleanliness of the surgical area, facilitate disposal of garbage, transport of sterile and unsterile articles and other duties designated.

Nurses – may be a circulating nurse or scrub nurse.

- SCRUB NURSE
 - Before the surgeon arrives
 1. Prepares the instruments and packs to be used and places them on the Mayo



Figure 11 Scrub Nurse

- table and back up table.
2. Does a complete scrub according to accepted practice.
 3. Performs gowning and gloving.
 4. Drapes tables as necessary according to standard procedure.
 - Sometimes a second instrument table is needed for extensive operations or special types of instrumentation.
 - The scrub nurse may drape and set a small table for the patient's skin preparation. Or commonly, the circulating nurse opens and prepares a dispensable or prepackaged preparation tray.
 - The surgeon and assistant(s) may gown and glove from a small table used for this purpose. The scrub nurse arranges the gloves.
 5. Moves remaining contents of the drape pack to a corner of the instrument table if they are not preset on the table drape in a convenient place. Before being wrapped for sterilization, contents of the pack can be set on the table drape. When the pack is opened, contents do not need to be handled or moved.
 6. Drapes the mayo stand. Both the frame and the tray are draped unless the tray is wrapped and sterilized separately. The mayo stand cover is like a long pillowcase. It is fan folded with a wide cuff to protect gloved hands. With hands in cuff, folds of the drape are supported on the area in front of the elbows to prevent it from falling below the waist level. While sliding the cover on, place foot on the base of the draped Mayo Frame; or a proof barrier, such as nonabsorbent disposable towel or artistic plastic film is placed over the cover on the tray and tucked in along the edges.
 7. If applicable, leave a large solution basin in the ring stand and take remainder of the basin to the instrument table. The wrapper on the basin set serves as the cover for the ring stand with the large basin. The surgeon and assistants may need to wash their gloves during the operation. This is no hazard in an operation devoid of frank asepsis or malignancy. The solution must be nontoxic and benign in tissues; however, sterile normal saline water is usually used in this "splash" basin. Splash basins are not used in many operating rooms. One basin is left on the instrument table until needed for specimen. A round basin will be used for moistening sponges. An absorbent towel is placed on the instrument table under it. In addition to these basins, the basin set may also contain solution caps for the skin preparation table and a basin specifically for trash disposal. In lieu of this extra basin, a small paper bag may be included in the basin or

instrument set for trash. The bag is left standing open on the instrument table in a convenient place on the side of the table for Mayo stand.

8. Arranges instruments on the back-up table and count according to the standard basic set or an instrument list for a given operation and the surgeon's preferences. The instruments usually are prepared wrapped and sterilized several hours prior to operation as they are dry and cool for safe handling. In addition to basic sets, separate individual packages of sterile special instruments may be opened as indicated.
9. Arranges instruments on the Mayo stand for making and opening the initial incision. For each basic maneuver, a definite class of instruments of suitable size, shape, strength and function is needed. Instruments may be classified as follows:
 - Cutting or dismantling
 - Grasping and holding
 - Clamping and occluding
 - Exposing
 - Suturing
 - knives and scissors
 - hemostat forceps
 - retractors
 - needle holders

Variation in style and number of instruments will be dictated by the type of operation. In addition to these basic instruments, the paraphernalia items may be added to the Mayo tray after the supplies are prepared for use:

- Sutures and needles
- Sponges

Do not overload the Mayo table initially. Additional instruments and supplies can be added by necessity as the operation progresses. Long handled forceps and clamps and deep retractors can be substituted for use in superficial structures. The Mayo stand should be kept clean throughout the operation with instrument organized by classification.

10. Installs blades on knife handles. To avoid injury, always use an instrument, never your fingers. Holding the cutting edge down and away from your eyes, grasps the blade at its widest and strongest part with a needle holder, and slip the blade into the groove on knife handle. A click indicates the blade is in place. To prevent damage to the blade, the instruments must not touch the cutting edge.

11. Prepares sutures in sequence in which the surgeon will use them. The surgeon ligates blood vessels shortly after incision is made unless he/she prefers to use electrosurgery to seal vessels. Therefore, prepare ligatures (free hand ties) first since they are used first.
12. Counts surgical needles and other sharp instruments with the circulating nurse according to the accepted practice.
13. Counts all sponges with the circulating nurse before doing anything else with them. Sponges placed on the sterile field should have indicator radiopaque to x-ray. They are referred to as x-ray detectable. The following are representative of the types used:
 - 3" x 3" (7.6 cm x 7.6cm) - used in small incisions
 - 4" x 4" (10 cm x 10 cm) - most commonly used. May be folded 2" x 2" and used on sponge forceps.
 - Moist pack in a large exposed area.
 - Tapes or lap packs or visceral packs - used for walling off the viscera and keeping them moist and warm.
 - Peanut sponges: It is very small gauze sponge used to dissect or absorb fluid in delicate procedures. They must be clamped into forceps.
 - Kitner dissecting sponges are small rolls of heavy cotton tape. They are held in a pair of forceps.
 - Tonsil sponges are cotton filled gauze with cotton thread attached.
 - Cottonoids are compressed rayon or cotton is used to moisten delicate structures such nerves, brain, and spinal cord.
14. Fills a syringe with the correct agent if a local infiltration anesthetic is to be used. Attach an appropriate sized needle and place it on the Mayo table. This will be the first thing the surgeon will use. State the kind and percentage of the solution in order to verify or check what is poured and given. Syringes used for injection or aspirations are:
 - Luer-luc-tip – this has a tip that locks over the needle hub. It is used whenever pressure is exerted to inject or aspirate fluid. Sizes are available from 2 to 100 cc.
 - Ring – this has luer-luc-tip. The barrel has one finger hold and thumb hold which gives the surgeon a secure grip when injecting with only one hand. Sizes range from 3 to 10 cc.

Syringes used for irrigation are:

- Bulb with barrel – a plastic or rubber bulb is attached to the neck barrel. The barrel has a tapered or blunt end. This is used when one hand control for irrigation may take during operations. Sizes have a solution capacity of 1.4 to 4 ounces (7.7 to 118 cc).
- Bulb without barrel- this is one piece bulb that tapers to a blunt end. It is used to irrigate small structures.

Needles for injection or aspiration:

- ½ inch (12.7 mm) by 30 gauge – for local anesthetic in plastic surgery.
 - ¾ inch (19 mm) by 24 gauge – the usual needle for any subcutaneous injection.
 - 1 and ½ inch (3.8 mm) by 22 gauge – for subcutaneous and intramuscular injection.
 - 2 inches (5 cm) by 20 or 22 gauge – for deep injection of local anesthetic or intracranial injections.
- After surgeon and assistant(s) perform surgical hand washing
 1. Offers sterile towel to the surgeon and assistants as soon as they enter the theater and then serve gown and glove to the surgeon and assistants as soon as they enter the operating room suite. However, do not interrupt a sponge / instrument count. Such interruptions lead to incorrect counts. The surgeons take their gown and gloves for this purpose in some hospitals.
 2. Assists in draping client according to the routine procedures.
 3. Requests the circulating nurse to move and position the Mayo stand and back table after draping is completed. Be sure it does not rest on the client. Position the instrument table to a right angle to the operating table.
 4. Serves suction tubing and electrosurgical instrument and if either or both are to be used, attach to drape with a nonperforating clamp. Allow ample length to reach both the incision area and equipment. Drop ends off side the table nearest the unit which the circulating nurse will attach them.
 - During the operation
 1. Hands knife to surgeon and hemostat to assistant. Some surgeons do not want the knife handed to them. Lay knife on the instrument towel, kidney basin or magnetic pad for them to



Figure 12 Surgeon and Assistant Surgeon

pick up. As soon as the surgeon makes the skin incision, place the knife into the specimen basin. The inside of the basin is hereafter considered contaminated whether the surgeon has cut through an adhering drape or not. The skin incision exposes deep skin flora of hair follicles and sebaceous gland ducts.

2. Hand towels and hooks are placed at each side of the incision and secured to cover skin completely during operation.
3. Watches the field and try to anticipate the surgeon's needs. Anticipate surgeon's needs in terms of instruments, sutures, sponges, handling specimen basins, and others. Notify circulating nurse if you need additional supplies or if what the surgeon asks which is not found on the tables. Ask quietly for supplies to avoid distracting the surgeon.
4. Hands over sterile instruments in a decisive and positive manner:
 - If the surgeon is on the opposite side of the table, pass with your right hand.
 - If the surgeon is on the same side of the table and to your left, use your right hand.
 - If the surgeon is on the same side of the table and to your right, use your left hand.

Keep instruments as clean as possible, wipe blood and organic debris from them with a moist towel. Flush suction with saline periodically to keep tips and tubing patent. Remove debris or operating sponge from the electrocautery tips by using the other side (blunt area) of the blade. Return to the Mayo table or back table promptly after use. Never allow instruments to accumulate on the surgeon's possession.

5. Places a ligature on the surgeon's hands. Ready at all times during the operation, a fine and heavy suture on needle placed in needle holders. After handling a suture, prepare another just like it at once. The needle or suture may break. Account for each needle as the surgeon finishes with it. Checks its integrity. Tell the surgeon immediately if a needle is broken so both pieces can be retrieved. Repeat size of the suture or ligature when handling it to the surgeon. Obviously, if the surgeon is using a long series of uninterrupted sutures or many ligatures in rapid succession, this repetition is not necessary. Also be logical in selecting instruments used for suturing. Give the surgeon long needle holders to work deep in a cavity. Short ones may be used for surface work. Gives assistant a needle holder or tissue forceps to pull needle through tissue for the surgeon then serve the scissors when knot is tied.

6. Keeps two (2) clean sponges on the field. Put up clear ones before removing soiled ones on an exchange basis. Discard soiled sponges into the kick bucket. Touches only the outside of the basin. Keep basin at waist level when emptying it into the kick bucket. If sponges are added during operation, count them. Normal saline solution is used to moisten sponges and tapes because it is an isotonic solution.



Figure 13 Sterile Team

7. Saves all specimens of tissues according to hospital policy. Many hospital policies stipulate that all tissues be sent to the laboratory, if a piece of tissue may appear to be of value for examination or diagnostic procedures.
8. Performs after care for tissue specimen according to hospital procedure. Specimens are placed into a specimen basin or attached to an instrument until it is placed in a jar or container. Never place a large clamp on a small specimen, this may crush cells, making tissue identification difficult, disposable gloves, wrappers, marked right and left can be used for holding bilateral specimen. Tells the surgeon circulating nurse what specimen it is. If you do not know ask the surgeon to identify it.
9. Maintains sterile technique. Watch for any break. Observe the following points:
 - Steps away from sterile when contaminated.
 - Change gloves at once and discard needle or instruments if a glove is picked by a needle or engaged by an instrument.
 - Discard anything that falls over the edge of the sterile field without touching the contaminated area.
 - Keeps hands at waist level when at rest; they should never be below waist.
 - Keeps contact to a sterile area to a minimum.
 - Leaves a wide margin of safety in moving about the room.
 - Do not turn back sterile field or to members of the sterile team.
 - Do not reach behind a member of a sterile team, go around.
 - Keeps the table and field as dry as possible.
 - Discards soiled sponges from the sterile field.
 - Keep talking to a minimum. Avoid coughing and sneezing.

- During Closure
 - Count the sponges, instruments, visceral packs and needles with the circulating nurse when surgeon begins closure of the wound, in accordance with established counting procedures.
 - Clear off the Mayo stand as time permits leaving a knife handle with blade tissue forceps, scissors, four hemostats, and two (2) Allis forceps. NOTE: Mayo stand should remain sterile until the patient has left the room. Cardiac arrest, tracheal collapse, haemorrhage or other emergency can occur in the immediate postoperative and postanesthetic period. Valuable time can be lost opening sterile supplies when every second counts in emergency situations.
 - Serves betadined operating sponge then have a damp sponge ready to wash blood from area surrounding the incision as soon as the skin closure is completed.
 - Have dressing ready. Sterile dressing purposes are:
 - To keep incision free from microorganisms.
 - To protect the incision free from outside (surgery) injury, especially in children.
 - To absorb drainage.
 - To give support to incision and surrounding skin.

- CIRCULATING NURSE
 - After the Scrub Nurse perform surgical hand washing.
 - Fastens the back of the gown of scrub nurse, surgeon and assistants.
 - Open packages of sterile items such as syringe, suction tubing, sutures, gloves, and sponges. Many items are prepackaged, pre-sterilized, disposable products. Others are wrapped and sterilized by hospital personnel. Care must be taken in opening all sterile packages to avoid contamination.
 - Flip suture packets unto the instrument table, or open over wraps for scrub nurse to take packets. Check list of material and sizes of surgeon's preference card but verify with surgeon before opening packets. Avoid opening suture packets that will not be used. Wait until a patient is in the operating room before opening packets. The operation might be cancelled and then they would be wasted. Be conservative in opening packets. If you can not anticipate the surgeon's needs for sutures and do not receive instructions you can generally keep just a packet or two ahead of actual need during the operation and thus avoid waste.
 - Pours little amount of solution (usually normal saline) into the pail before pouring it into the basin.

- Counts sponges, sharps instruments, needles and visceral packs with the scrub nurse as required by hospital policy and procedure. Record immediately.
- After the Patient Arrives
 - Greet and identify patient. Introduce yourself to the patient. Check wristband for identification by name and hospital number if applicable.
 - Check nursing care plan and patient's chart for pertinent information including consent.
 - Cover patient's hair with a cap to prevent dissemination of microorganism, to protect it from being soiled and to prevent static sparks near the anesthesia machine.
 - Take patient into the operating room after the surgeon sees him and the anesthesiologist is ready for induction. The patient should see the surgeon before being anesthetized.
 - Assist the patient in moving from the stretcher to the operating table. Both stretcher and operating table must be stabilized by locking the wheels. During transfer, avoid unnecessary exposure of patient. Remember that the cotton blanket and gown protect modesty as well as provide warmth. Handle blanket and gown gently to avoid dispensing dirt and microorganisms into the air or they can settle on sterile tables. In moving patient, also give special attention to catheters, drainage tubes, IVF and traction so as not to dislodge them.
 - Check to be certain that a conductive strap if used should be in contact with the patients' skin, with one end of strap fastened to metal frame of the operating table.
 - Apply restraints completely. Place safety straps barely over blanket. The patients must not be crossed. Place patient's arms at the sides of the table and tuck arm band around them. If an IVF is running or will be started, place that arm on a padded arm board at a right angle to the bed. The arm must be immobilized to prevent peripheral extravasations of solution which can cause local tissue necrosis.
 - Help anesthesiologist, surgeon or assistant to start IVF. Unless this was done in holding area or taken care of by the anesthesiologist, obtain the following equipment before the patient arrives:
 - Tourniquet
 - Sponges saturated with antiseptic solution for skin preparation.

- Intravenous administration set of sterile tubing with air filter and needle, cannula or catheter.
- parenteral infusion solution.

Intravenous solutions frequently used in the operating room

- Normal saline / Plain Normal Saline Solution / 0.9 NaCl
 - Dextrose 5% or 10% in water
 - Dextrose in saline
 - Dextran an artificial plasma volume extender, acts by drawing fluid from tissues.
 - Mannitol, an osmotic agent, has an effect on renal vascular resistance.
 - Ringer's lactate solution, a physiologic salt solution, is used in patients in whom the body's supply of sodium and potassium and calcium has been depleted; or for improvement of circulation and stimulation of renal activity.
- During Induction of General Anesthesia
 - Stay in the room and near the patient to comfort him or her with the anesthesiologist in the event of excitement or any other contingency occurs. The patient must be guarded during induction to prevent possible injury or fall from the operating table. Further restrain or hold the patient if necessary. The circulating nurse must not leave the room until anesthesiologist says the patient needs no longer to be guarded.
 - Be as quiet as possible. Excitement may occur during induction from tactile or auditory stimulation. It occurs more commonly in alcoholics.
 - After the Patient is Anesthetized
 - Reposition only after anesthesiologist says the patient is anesthetized to the extent that he/she will not be disturbed by being moved or touched.
 - Attach anesthesia screen and after table attachments as needed. These are always placed after the patient is anesthetized and positioned to prevent injury to the patient.
 - Note patient's position to be certain all measures for his safety have been observed.
 - Place inactive electrode pad or plate in contact with the patient's skin. If electrosurgical unit is used to ground the patient properly. Avoid scar tissue and heavy or bony areas.
 - Expose appropriate area for skin preparation. Turn blanket downward and gown upward neatly to take smooth area around operative site.

- Turn on overhead spotlight over site of incision. Bright light should not be focused on the patient before he is asleep or eyes are covered. Preoperative medications affect pupil, dim light is restful and non-irritating.
 - Arrange sterile prep tray and pour solutions if this has not been done. Don sterile gloves and prepare operative site.
 - Cover prep-tray immediately after use. The sponges are not included in sponge count so they must not be discarded. A disposable tray may be bagged with trash after operation is completed.
- After Surgeon and Assistant(s) Perform Surgical Handwashing
 - Assist with gowning. Reach inside gown to shoulder seam. If closed glove technique is used, pull gown sleeves only so far that hands remain covered. If open technique is used, pull each sleeve over hands so gown cuff are at the wrist. Fasten back of the gown
 - Observe for any breaks in technique during draping. Stand near head end of the operating table to assist anesthesiologist in fastening drape over the anesthesia screen or around IV stand next to arm board.
 - Assist scrub nurse in moving Mayo stand and or back instrument table being careful not to touch in drapes.
 - Focus overhead operating light on site of incision, unless sterile handless will be used. The beam of light should pass the surgeon's right ear and center at tip of his right index finger or left for left handed person.
 - Set platform or foot stools for team members who need them or place stools in position for surgeon who prefers to operate seated.
 - Position kick buckets on each side of the operating table and splash basin if any near the surgeon. Make sure that it is empty and clean.
 - Connect suction tubing to suction machine if necessary. Suction caps are assigned so inlet for fluid is below outlet for vacuum. These connections must not be reversed. If contents of the container are picked up and carried into the vacuum system, clogging and making it nonfunctional. Most hospitals use disposable suction collection units to facilitate disposal.
 - Connect electrosurgical electrodes and or any other electrical equipment to be used. Place foot pedals within easy reach of the surgeon's foot. Tell surgeon the setting of all machines.

- During Operation
 - Be alert to anticipate needs of sterile team such as adjusting operating light, removing perspiration from brows, and keeping scrub nurse supplied with sponges, sutures, saline etc. Ideally, the circulating nurse watches the operation closely enough to see when routine supplies are needed and be able to get those supplies, instruments, and equipments. This is particularly important in emergency situations such as cardiac arrest.
 - Stay in room as much as possible. Inform the scrub nurse if you must leave. Be available to answer questions or offer helpful suggestions to scrub nurse. Kind help builds up a learner's confidence.
 - Keep discard sponges carefully collected, separated by sizes and counted. The method used depends upon provision made for care of soiled sponges in each hospital. It is convenient to keep them in multiples of total number of each type of sponge in each package.
 - Weigh sponges for blood loss when requested. Some anesthesiologist and surgeons prefer to have sponges weighed for blood loss rather than visually estimating it. A scale calibrated in grams usually is used to weigh bloody sponges during operation before they dry out.
 - Obtain blood products for transfusion, if necessary. Transfusion is whole blood, plasma, packed cells, platelets, or artificial blood must be carried out according to hospital policy. Basic rules include the following:
 - Blood products are obtained from the blood bank by a person responsible for signing them out to the proper patient.
 - Blood products are started by an MD or RN after a careful comparison of label bag or bottle with identity of the patient.
 - Another solution may be infused immediately prior to hanging a blood product.
 - Anesthesiologist's record on anesthesia informs the following:
 - Name of person who started the transfusion of whole blood plasma.
 - Time started and drops per minute.
 - Amount and information on the label.
 - Cold refrigerated blood may induce hypothermia.
 - To have blood near patient during operation, a refrigerator with controlled temperature may be installed in the operating room suite.

- A transfusion of wrong blood can be fatal and must be terminated at once. The attending physician should be informed. Observe the client for reactions and take vital signs.
- During Closure
 - Count sponges, instruments, needles and visceral packs with the scrub nurse. Complete count record. Collect spoiled and place into plastic-lined bucket.
 - If another patient is scheduled to follow:
 - Call ward at least 45 minutes before the schedule time of operation to request that the operative medications be given.
 - Send an Institutional Worker for patient and notify unit to transport the patient.
 - Prepare for room clean-up at a minimal time. Check with scrub nurse before leaving.
 - Send for recovery room stretcher or bed with a clean sheet, whatever is the practice.
- After the Operation is Completed
 - Open neck and back closure of gowns of surgeons and the assistants so they can remove them without contaminating themselves.
 - Assist with outer layer of dressing.
 - See the patient lies in clean or dry drapes. Wash off blood, feces or plaster. Put on a clean gown and blanket.
 - Have an Institutional Worker bring in clean recovery room stretcher.
 - Help move patient to stretcher or bed. Before moving a patient from the operating table, be sure all arm and leg restraints and table appliances have been removed.
 - Secure IV solution bags on a stand and attached preferably near foot end of the stretcher or bed.
 - Connect all drainage systems as indicated.
 - Make sure that the chart and proper records, including the Nursing Care Plan should go together with the patient.
 - Have nursing assistant assist anesthesiologist in taking patient to recovery room, IV or nursing unit.

Surgical Attire

- Scrub suit - to decrease the number of bacteria. Worn only in the operating suite.
- Sterile gown – are worn over scrub attire.
- Shoes (slip on shoes/sandals, shoe covers) – should be clean and conductive, washable and soft – soled covered by shoe covers.



Figure 14 OR Attire

Personal Protective Devices

- Surgical eye protective devices e.g. goggles
- Cap or bonnet – used to cover the hair completely to include the ears.
- Surgical Face Mask - is put on by all personnel before coming into the operating room and must be worn over nose and mouth.
- Sterile gloves – are worn to complete the attire for scrubbed team members.

Surgical Hand Washing

Surgical hand washing is the removal of as many bacteria as possible from the hands and arms by mechanical washing and chemical disinfection before participating in an operation. It helps in preventing the probability of contamination of the operative wound by microorganism.

Preparation before surgical hand washing

- Skin and nails should be kept clean. Nails should be short to prevent puncture of surgical gloves. Skin should be without open lesions or cracked skin.
- Fingernail polish should not be worn.
- Remove finger jewelry.
- Make sure hair is covered by headgear. Hair studs should be covered.
- Adjust disposable mask snugly and comfortably over the nose and mouth.
- Adjust eyeglasses in relation to mask.
- Adjust faucet and flow of water. Perform medical hand washing as a pre-scrub wash.

Steps in Surgical Hand Washing

1. Pre-tear package containing brush; lay the brush on the back of the scrub sink.
2. Remove the sterile brush and file, moisten brush and work up lather. Soap fingertips and clean the spaces under the fingernails of both hands under running water; discard file.

3. Lather finger tips with sponge-side of brush; then, using bristle side of brush, scrub the spaces under the fingernails of the right or left hand 30 circular strokes. When scrubbing, slightly bend forward, hold hands and arms above the elbow, and keep arms away from the body.
4. Lather digits; scrub 20 circular strokes on all four sides of each finger.
5. Lather palm, back of hand, heel of hand, and space between thumb and index finger. Choosing either of the surfaces, scrub 20 circular strokes on each surface.
6. You are now ready to scrub the forearm. Divide your arm in three inch increments. The brush should be approximately three inches lengthwise. Use the sponge-side of the brush lengthwise to apply soap around wrist. Scrub 20 circular strokes on all four sides; move up the forearm -- lather, then scrub, ending two inches above the elbow.
7. Soap and or water may be added to the brush at any time.
8. Repeat steps 3 through 6 above for the other arm.
9. Discard brush.
10. Rinse hands and arms without retracing and or contaminating.
11. Allow the water to drip from your elbows before entering the operating room.
12. Slightly bend forward, pick up the hand towel from the top of the surgical packs and step back from the table. Grasp the towel and open it so that it is folded to double thickness lengthwise. Do not allow the towel to touch any unsterile part of your body.
13. Holding one end of the towel with one of your hands, dry your other hand and arm with a blotting, rotating motion. Work from your fingertips to the elbow; DO NOT retrace any area.
14. Dry all sides of the fingers, the forearm, and the arm thoroughly. If moisture is left on your fingers and hands, donning the surgical gloves will be difficult. Moisture left on the arms may seep through surgical cloth gowns, thus contaminating them.
15. Grasp the other end of the towel and dry your other hand and arm in the same manner as above. Discard the towel into a linen receptacle (the circulator may take it from the distal end).

Surgical Gowning

Purposes of Gowning

- To exclude skin as a possible contaminant and to create a barrier between sterile and unsterile areas.
- To allow the scrub nurse to be within the sterile field.
- To perform sterile interventions intraoperatively.

(For steps in performing surgical gowning refer to Chapter 8 in this manual)

Gloving Technique

Sterile gloves complete the attire for scrubbed team members. The sterile gloves are put on immediately after gowning.

Purposes of Gloving

- To exclude skin as a possible contaminant.
- To create a barrier between the sterile field and the skin.
- To allow the scrub nurse to handle sterile articles in the operative site.

Gloving Techniques

Surgical gloves may be put on in two ways

- Closed gloving technique – is preferred except when changing gloves during an operation or for procedures that does not require a gown.
- Open gloving technique – uses a skin-to-skin, glove-to-glove technique.

(For steps in performing surgical gloving technique refer to Chapter 8 in this manual)

Final Skin Preparations

Guidelines for Skin Preparations

- Human skin normally harbours transient and resident bacterial pores, some of which are pathogens.
- Skin cells can't be sterilized.
- Friction enhances the action of detergent antiseptics.
 - not applied: over superficial malignancy (seeding of malignant cells); areas of carotid plaque (dislodgement and emboli)
- Body Bath/Shower using bactericidal soap.
- Hair near the operative site should not be removed unless it interferes with surgery (skin usually injured during shaving = postoperative wound infection)
 - If required, shaving should be done close to the operative time as possible; in the direction of hair growth.
 - If using shaver, remove hair within 1-2 mm of the skin to remove abrasions.
 - Use scissor to remove hair greater than 3 mm in length.
 - Depilatory creams may be preferred by some patients: eliminates possible abrasions and cuts; produces smooth, clean, intact skin; relaxing. (Caution against transient skin reactions specially in rectal/scrotal areas)
- For head surgeries, obtain instruction from the surgeon concerning the extent of shaving.

Surgical Positions

The patients' position on the operating table depends on the surgical procedure to be performed as well as his or her physical condition. The potential for temporary discomfort or permanent injury is clear because many awkward.

Factors to think about

- The client should be as comfortable as possible.
- The operative field must be exposed.
- The position should not obstruct vascular supply.
- Respiration should not be impeded by pressure of arms on the chest or by a gown that constricts the neck and chest.
- Nerves must be protected by undue pressure.
- Precautions for safety must be observed.
- The client needs gentle restraints in case of excitement.

Supine - lying down with the face up, as opposed to the prone position, which is face down. When used in surgical procedures, it allows access to the peritoneal, thoracic and pericardial regions; as well as the head, neck and extremities.

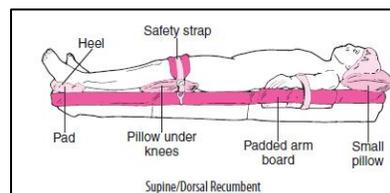


Figure 15 Supine / Dorsal Recumbent

Trendelenburg Position- Used for procedures in the lower abdomen or pelvis when it is desirable to tilt the abdominal viscera away from the pelvic area for better exposure.

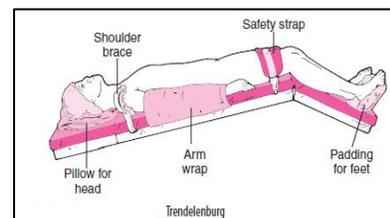


Figure 16 Trendelenburg

Reverse Trendelenburg Position- Used for thyroidectomy to facilitate breathing and to decrease blood supply to the surgical site (blood

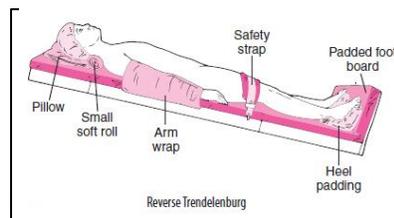


Figure 17 Reverse Trendelenburg

will not pool caudally), used for laparoscopic gallbladder, biliary tract, or stomach procedures.

Fowler's Position- Used for shoulder, nasopharyngeal, facial and breast reconstruction procedures. Patient on his back with the buttocks

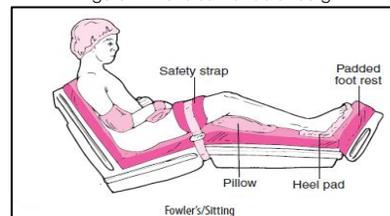


Figure 18 Fowler's / Sitting

at the flex in the operating bed and the knees over the lower back.

Lithotomy Position- Used for female pelvic exam. Client lies on back with the knees well flexed and separated. Frequently stirrups are used (adjust for proper feet and lower leg support). Client lies on back with the knees well flexed and separated.

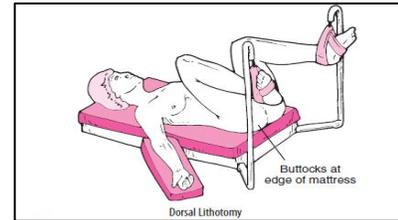


Figure 19 Dorsal Lithotomy

Prone Position - Client lies on his abdomen. Head turned to one side on small pillow or a flat surface. Small pillow just below diaphragm to support lumbar curve, facilitate breathing, and decrease pressure on female breasts. May be modified in amputees where flexion of hips and knees may be contraindicated.

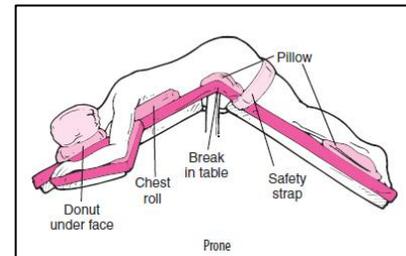


Figure 20 Prone

Kidney position - Patient is in lateral position with kidney region over operating bed break, or body elevation bar. Table is flexed, straps across hips to stabilize the body. Patient's side is horizontal from shoulder to hip.

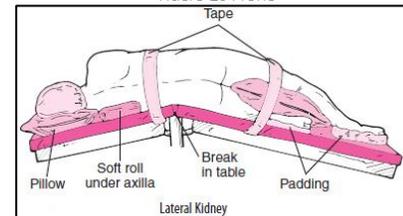


Figure 21 Lateral Kidney

Lateral chest (thoracotomy) position - Turned to unaffected side and positioned as described in lateral position. Restrictive to cardiopulmonary system, especially if used for prolonged procedures.

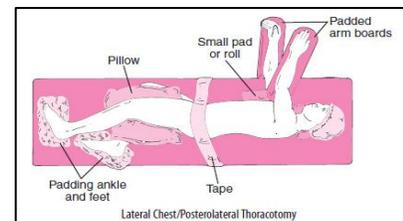


Figure 22 Lateral Chest / Posterolateral Thoracotomy

Fracture Table - The patient is placed supine with both arms extended on padded arm boards, or the arm on the unaffected side may be extended on a padded arm board and the arm on the affected side may be flexed over the chest, supported by a pillow padded Mayo stand, and secured with tape or a double arm board may be used.

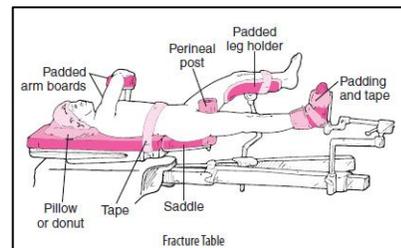


Figure 23 Fracture Table

Sim's (Semi-Prone) - the patient is placed on his/her left side with the left thigh and leg extended. The right knee and hip are flexed and supported by a padded table restraint with a

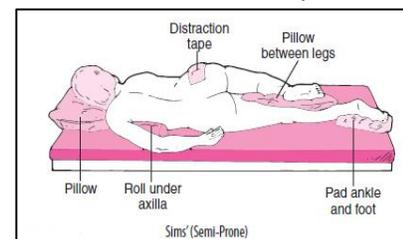


Figure 24 Sim's (Semi Prone)

pillow placed between the legs to prevent undue pressure.

Surgical Hand Signals

A scrub person should place surgical instruments into the surgeon's hand that reaches out with the hand signal. The surgeon's dominant operating hand should be close to the scrub person. This arrangement usually places a right-handed surgeon on the patient's right side and a left-handed surgeon on the patient's left side. If a left-handed surgeon performs surgery while standing on the patient's right side, he or she often has to reach across the surgical field for instruments. All surgical instruments should be passed carefully and precisely into the surgeon's hand. The surgeon should not have to look toward the scrub person when he or she receives an instrument with the exception of scalpels and other sharp objects. Direct eye contact between the scrub person and the surgeon minimizes accidental injury when sharp instruments or objects are passed back and forth. ***There is little published data on the use of hand signals in surgery.***

To get a consensus, therefore, the author reviewed and researched OR Books on the subject of hand signals developed over the years. Using hand signals during surgery appeals to scrubbed surgical team members because hand signals allow team members to communicate more effectively, especially when there is an increased noise level in the OR. Basic surgical hand signals also can bridge the language difference between foreign surgical personnel and compensate for austere nonverbal surgical environments. During trauma surgery, surgical personnel can coordinate activities and communicate quickly using hand signals. Hand signals also are beneficial when surgeons operate on conscious patients undergoing local, regional, or spinal anesthesia. When OR noise levels are reduced in surgical practice settings, patient anxiety levels are reduced significantly.

The hand signals discussed in this book are basic. Surgical team members are encouraged to add

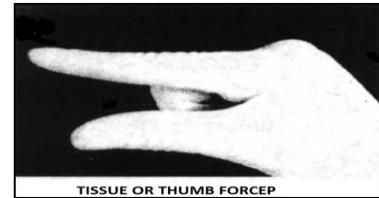


Figure 26 Tissue or thumb forcep

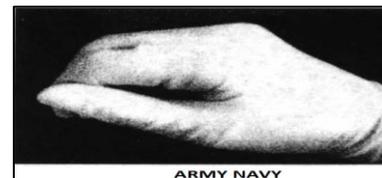


Figure 25 Army Navy

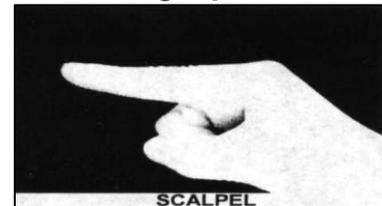


Figure 25 Scalpel



Figure 26 Free Tie



Figure 27 Curved Scissors



Figure 27. Straight Scissors

hand signals that meet the needs of their individual surgical subspecialties. These illustrations can be standardized and offered in a composite chart form in education programs for surgical technicians, perioperative nurses, and surgery residents. In addition, these hand signals can be employed between surgical technicians and circulating nurses, especially when additional instruments are needed for the surgical procedure. For RNs who only scrub occasionally, the chart illustrations can be learned and practiced easily. Reducing the noise level in the ORs is the responsibility of all surgical personnel, and circulating nurses should take the lead in coordinating this effort. ⁴



Figure 29 Curved Forceps



Figure 30 Syringe

Draping

Is the procedure of covering the patient and surrounding areas with a sterile barrier to create and maintain an adequate sterile field. Eliminates or minimizes passage of microorganisms between non-sterile and sterile areas. Only the top of the table or patient that is draped is considered sterile; drapes hanging over the edge are not regarded as sterile. Sterile drapes are kept in position by the use of clips or adherent material; drapes are not moved during the surgical procedure.

Criteria for an Effective Barrier

- Blood and fluid resistant
- Resistant to tearing, puncture or abrasion
- Lint-free to reduce airborne contaminants
- Antistatic
- Sufficiently porous
- Drapable to fit around contours of the patient
- nonglaring to minimize color distortion from reflected light
- Free of toxic ingredients
- Flame resistant ³

Anesthetic Agents

History of Anesthesia

Historians have documented that man has consistently sought relief from pain and suffering. Mandroga wine was given by the ancient Greeks before

operations, and by the Romans to relieve the sufferings of the crucified. It remained in use through the 12th century as an anesthetic agent.

In Han Dynasty, opium was used to produce numbness and insensibility.

In 1772, Joseph Priestly first prepared an impure form of nitrous oxide.

Dr. William Thomas Green Morton, an American Dentist, as the pioneer of surgical anesthesia.

Chloroform became the most widely used anesthetic agent in 60 years by Sir James Simpson.

Sir William Macewen devised the idea of passing a tube through the mouth, between the vocal cords, into the trachea. On July 5, 1878, the first endotracheal was administered.

The continued development of anesthetic agents and techniques has not only provided patients with freedom from pain, but it has also provided prolonged operating time, allowing the surgeon to refine and to expand surgical techniques.



Figure 31 The Anesthetized Patient

Anesthesia

Is the partial or complete loss of sensation with or without the loss of consciousness.

2 Broad Classification of Anesthesia

- General Anesthetics
- Regional

General Anesthetics

Blocks pain stimulus at the cerebral cortex and induce depression of the CNS that is reversed by metabolic changes and elimination from the body or by pharmacologic means.

Produce analgesia, amnesia, unconsciousness and loss of reflex.

Two methods of administering general anesthesia

- Inhalation- Inhaled anesthetic agents include volatile liquid agents and gas anesthetic. Volatile liquids produce anesthesia when their vapors are inhaled. (e.g. halothane (flurothane), enflurane (Ethrane), isoflurane (Forane), sevoflurane (Ultrane). Are administered with oxygen and usually with nitrous oxide. Gas anesthetics are administered by inhalation, and combined with oxygen. Nitrous oxide is the most common gas anesthetic used.
- Intravenous injection- Substances include: benzodiazepines, barbiturates, opioids, dissociative agents like propofol (Diprivan). These medications: may be administered for induction or maintenance of anesthesia. Often used along with inhalation anesthetics but may be used alone. Can be used to produce *conscious sedation*.

Advantages

- Onset of anesthesia is pleasant
- Duration of action is brief
- Patient awakens with little nausea vomiting
- Non-explosive, requiring little equipment and easy to administer.

Disadvantages

- Not ideal for longer procedure
- Not indicated for children with small veins
- Has a powerful respiratory depressant effect

4 Stages of General Anesthesia

- Onset/ Beginning - From anesthetic administration to loss of consciousness.
 - Physical reaction: warmth, dizziness and a feeling of detachment, ringing of ears, aware of being unable to move extremities, noise are exaggerated.
 - Close doors, check for proper positioning of safety belt, have suction available and working, keep noise in room to a minimum, provide emotional support and remain in his side.
- Excitement - From consciousness to loss of eyelid reflex.
 - Physical reaction: struggling, shouting, laughing, or crying; pupils become dilated, pulse rate is rapid and respirations irregular.
 - Avoid stimulating the patient, protect the extremities or restrain the patient and be available to assist anesthesiologist with suctioning.
- Operative or Surgical Anesthesia - From loss of eyelid reflex to loss of most reflex.
 - Physical reaction: clients are unconscious, muscles are relaxed, respirations are regular, normal pulse rate, absence of blink or gag reflex.
 - Be available to assist the anesthesiologist with intubation, validate with anesthesiologist appropriate time for skin preparation and positioning of patient and check position of patients feet to ascertain they are not crossed.
- Danger / Medullary Depression - Functions are excessively depressed to respiratory and circulatory failure.
 - Physical Reaction: respirations become shallow, pulse is weak & thready, pupils become widely dilated and no longer constrict when exposed to light, and cyanosis may develop.
 - Be available to assist in treatment of cardiac or respiratory arrest, provide emergency cart and defibrillation and document administration of drugs.

Anesthesia Machine

The anesthesia machine is connected to a source of gases, either from the high pressure tanks attached to the machine or piped from central hospital source. To further guard against accidents, cylinders are color coded.

- Green – oxygen
- Blue – nitrous oxide
- Orange - cyclopropane

Balanced Anesthesia – is a term applied to anesthesia produced by the combination of two or more drugs (e.g. barbiturate administered intravenously

for induction, nitrous oxide and morphine for analgesia, and a muscle relaxant to provide additional relaxation of the muscle.

Care of Patients Receiving General Anesthetics

Team member especially the circulating nurse and anesthesiologist must be constantly aware of potential trauma to the patient since he/she is unable to produce a normal response to painful or injurious stimuli.

The patient's position must be changed slowly and gently to allow circulation to readjust.

Patient's ability to detoxify anesthetic agents and rate stress differ greatly, but any anesthetized patient has diminished ability to comprehend for physiologic changes caused by motion or operative conditions.

Anesthetic agents are basically depressants that affect the vasomotor and respiratory centers, predisposing the patient to postoperative respiratory complications.

Regional Anesthesia

Regional anesthesia temporarily interrupts the transmission of nerve impulses to and from a specific area or region. Motor function may or may not be involved, but the patient does not lose consciousness.

Advantages

- Simple and minimal equipment needed during induction
- Drugs are nonflammable
- Postoperatively, less nausea and vomiting
- Less bleeding occurs if a vasoconstrictor is used
- There is less disturbance of body function
- They can be used when General Anesthetics are contraindicated
- They can be used in procedures that require the patient to be awake and cooperative
- They are cheap
- Can be used when an anesthesiologist is unavailable
- There is no pollution to the environment

Disadvantages

- Many procedures are too complex for regional anesthetics

- Difficult to administer to young patients and to patients who are emotionally unstable.
- They cannot be used in the presence of skin infections or sepsis near the site of injection.
- Patients may become apprehensive because they are awake
- There is no control of the drug once it is injected
- Local and general complications may occur

Techniques in Administering Regional Anesthesia

- Topical Anesthesia – applied directly on the surface of the area to be anesthetized. The onset is 1 minute and the duration is 20 to 30 minutes. For procedures like laryngoscopy, bronchoscopy, or cystoscopy.
- Local Infiltration – the drug is injected into the subcutaneous tissue surrounding the incision, wound or lesion.
- Nerve Blocks – achieved by injecting the local anesthetic agent into or around a nerve or nerves supplying the involved area. (e.g. brachial plexus, cervical plexus, intercostals nerves; and radial, ulnar, and digital nerves.
- Field Blocks – used to describe regional anesthesia produced by a series of injections around the operative field.
- Caudal and Epidural Blocks – when the local anesthetic solution is injected into the epidural space through the sacral hiatus and the caudal canal, the technique is termed caudal block. If the injection of the anesthetic solution into the epidural space through the interspaces of the lumbar, thoracic, or cervical spine is termed an epidural block.
- Spinal Anesthesia – achieved by the injection of an anesthetic agent into the cerebrospinal fluid with (1) resultant absorption by the sensory, motor, and autonomic nerve fibers and (2) blockage of nerve transmissions. The injection is performed through one of the interspaces between lumbar 2 (L2) and the sacrum (S1). The spinal cord usually ends at L1 or L2. Therefore, performing the puncture at this site or above may cause damage to the spinal cord. The site most frequently used is between L3 and L4. The injection may be performed with the patient sitting or in the flexed lateral (fetal) position. The spread of the anesthetic agent influenced by the specific gravity of the solution and the position of the patient immediately after injection. The level of analgesia is usually fixed within 15 to 20 minutes and is no longer influenced by changes in the patient's position. Division of spinal anesthetics
 - Low spinal (Saddle Block)
 - Midspinal
 - High Spinal

Spinal Anesthesia produces excellent analgesia and relaxation for abdominal and pelvic procedures. The most important side effect is hypotension. A spinal headache may occur 24 to 48 hours postoperatively. It

happens when the dura matter does not seal off following extraction of the needle and cerebrospinal fluid leaks into the epidural space therefore decreasing the cerebrospinal pressure and puts stress on the nerves between the cranium and the brain. Treatment for spinal headache is bed rest, hydration, and sedation and in severe cases a blood patch graft (injection of 10 ml of patients blood to plug the leak).

Care of Patients Receiving Regional Anesthetics

- The nurse assists anesthesiologist in assembling the equipment and setting up for the procedure.
- The nurse observes the anesthesiologist for any break in aseptic technique.
- Provides physical and emotional support to the patient, providing word of encouragement and assisting with the proper position.
- Touch is especially important. It reassures the patient that the nurse is present and is concerned about him or her as an individual and about his or her comfort and safety.
- In the absence of an anesthesiologist, such as in a local infiltration, the circulating nurse is responsible for monitoring and documenting the patients vital sign every 15 minutes and prior to administration of a local anesthetic agent.
- Intraoperatively provide oxygenation therapy and administration of IV fluids when clinical finding warrants action.
- All changes in patient's condition should be reported to the surgeon.
- Departmental policies and procedures should be formulated regarding the administration of drugs that may be given by the perioperative nurse, and the level of monitoring skills required. ⁵

Surgical Articles

Sutures - surgical sutures as defined by the United States Pharmacopeia are divided into two classifications: absorbable and non-absorbable.

- I. Absorbable sutures are sterile strands prepared from collagen derived from healthy mammals or from a synthetic polymer. They are capable of being absorbed by resistance to absorption.

Types of absorbable sutures:

- Surgical gut is collagen derived from submucosa of sheep intestine of the serosa of beef intestine. It is digested by body enzymes and absorbed by tissue thus no permanent foreign body remains.
- Plain surgical gut is used to ligate small vessels and to suture subcutaneous fat. It losses tensile strength relatively quickly, usually in five to ten days and

is digested within 70 days because collagen strands are not treated to resist absorption.

- Chromic surgical gut is treated in a chromium salt solution to resist absorption by tissues for varying lengths of time depending on strength of the solution, duration and method of process. It is used for ligation of larger vessels and for suture of tissues in which non-absorbable materials are not usually recommended because they may act as nidus for stone formation, as in the urinary and biliary tracts.
- Collagen sutures are extruded for a homogenous dispersion of pure collagen fibrils from tendons of beef. They are used primarily in ophthalmic surgery.
- Synthetic absorbable polymers are used for ligating or suturing except in tissues where extended approximation of tissues under stress is required.
- Polydioxanone is a monofilament suture extruded from the polyester and is particularly useful tissues where both an absorbable suture and extended would support are desirable.
- Polyglycolic 9/0 are controlled combination of glycolide and lactide resulting in a copolymer with a molecular structure that maintains tensile strength longer than a surgical gut. These sutures are available in two forms: uncoated monofilament and coated multifilament.
- Polyglycolic acid is a homopolymer which loses tensile strength more rapidly and absorbs within 30 days. It is braided suture material available in two forms: uncoated and coated.

II. Non-absorbable sutures are strands of natural or synthetic material that effectively resist enzymatic digestion of absorption in living tissue.

Types of non-absorbable sutures:

- Surgical silk is animal product made from the fiber spun by the silkworm larvae in making cocoons. It gives good support to wounds during ambulation and generally promotes wound healing a little more rapidly than surgical gut.
- Virgin silk suture consists of several natural silk filaments drawn together and twisted to form 8-0 and 9-0 strands for tissue approximation of delicate structures primarily in ophthalmic surgery.
- Surgical cotton suture is made from individual, long-staple cotton fibers that are combed, aligned and twisted into a smooth multifilament strand.
- Surgical linen is spun from long-staple, flax fibers, and then twisted into tight strands and thread from smooth passage through tissue. It is used almost exclusively in gastrointestinal surgery.
- Surgical stainless steel sutures are drawn from 316L-88(L for low carbon) iron alloy wire. It is used in surgical stainless steel implants and prostheses. Synthetic nonabsorbable sutures are used to replace silk because they have higher tensile strength and elicit less tissue reaction.

- Surgical nylon is a polyimide polymer derived by chemical synthesis from coal, air and water.
- Polymer fiber is a polymer of terephthalic acid and polyethylene such as silicone, mersilene, person and others.
- Polypropylene is a long-chain plastic polymer extruded into a blue dyed monofilament suture strand. This is an acceptable substitute for stainless steel in situations where strength and reactivity are required and the suture must be left in place for prolonged healing.

Sutures: absorbable or non-absorbable

- 2-0, 3-0 = tissues subjected to strong tensile forces (knees; elbows; joints)
- 3-0, 4-0 = epidermal/dermal layers (except face)
- 5-0, 6-0 = facial area

Suturing Technique:

- Primary Suture line = sutures that hold wound edges in approximation during healing
 - continuous sutures = series of stitches are taken with one strand of material tied only at ends of the suture line (closure of peritoneum)
 - interrupted sutures = each single stitch taken is readily tied up
 - purse string sutures = strand is drawn together to close a lumen

* subcuticular sutures - stitches done beneath the epithelial layer of skin

* buried sutures - embedded under skin

- Secondary Suture line
 - exert tension lateral to the primary suture line
 - reinforce primary suture line
 - obliterate dead space
 - prevent accumulation of wound drainage in the wound during healing
 - contributes to tensile strength of the wound

Retention sutures (stay or tension sutures)

- non-absorbable; interrupted stitches
- provides a secondary suture
- Relieves undue strain on suture line.
- Done on pts. with slow wound healing (malnourished; obese; CA; elderly; steroid therapy; respiratory infection)
- Suture is passed through a small tube or over a plastic bridge that is placed on the skin.

Staples: reduces edema and inflammation because manipulation and handling has been reduced.

Covered with sterile dressing or adhesive strips

Surgical Needles

- Point of Needles:

- Cutting point – a razor-sharp hand cutting point may be preferred when tissue is difficult to penetrate such as skin, tender and tough tissues or eye.
- Conventional cutting tissues – two opposing cutting edges form a triangular configuration with a third edge on the body of the needles.
- Reverse cutting needles – a triangular configuration extends along the body of the needle.
- Side cutting needles – relatively flat on top and bottom angulated cutting edges on the sides.
- Taper points – these needles are used in soft tissues, such as intestines and peritoneum, which offer a small amount of resistance to the needle as it passes through.

Body of Needles:

The body of shaft varies in wide gauge, length, shape and finish. The nature and location of the tissue to be sutured influence selection of needles with variable features.

- Tough or fibrous tissue requires a heavier gauge needle than the fine gauge wire needed in microsurgery.
- Depth of bite through tissue determines appropriate length.
- Body may be round, oval, flat or triangular.
- Curve needles that have longitudinal ribbed depressive or grooves along the body inside and outside curvatures create a cross-looking action of the needle in the needle holder.
- Body of all needles must have smooth finish.

Eye of Needle:

- Eyed needle – the closed eye of an eyed surgical needle is like that of any household sewing needle. Shape of the enclosed needle may be found oblong, or square.
- Eyeless needle – is continuous unit with the suture strand. The needle is swigged onto the end of strand in the manufacturing process.

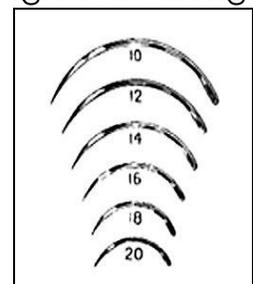


Figure 32 Needle Sizes

Types of Eyeless Needle-suture Attachments:

- Single-armed attachments have one needle swigged to the suture strand.

- Double-armed attachments have one needle swigged to each end of the suture strand.
- Permanently swigged needle attachment is secure so that the needle will not separate from the needle inadvertently but does not released when pulled off intentionally.

Surgical Blades

Surgical blades or scalpel are among one of the sharp instruments used by surgeon to cut tissues. These instruments are numbered according to its size, form and fitment to its handle. ⁶



Figure 33 Proper Handling of Scalpel



Figure 34 Surgical Blade Fitment

Operating Room Instruments

1. Cutting or Dissecting Instruments

- knives / scalpel
- scissors
- saws
- drill
- bone cutters

2. Grasping or Holding Instruments
 - tissue forceps
 - allis
 - Bobcock
 - Tennaculum
3. Clamping or Occluding Instruments
 - hemostats = straight and curve
 - ochsners
 - heaney
4. Exposing Instruments
 - retractors
 - dilators
 - spatula/malleable
5. Suturing Equipment
 - needles and needle holders
 - metal clips
 - staple devices

Operating Room Equipment / Facilities

- = anesthesia machines
- = cautery; OR spotlights
- = mounted microscopes
- = suction machine
- = cardiac monitor
- = portable X-ray machine
- = pulse oximeter
- = built-in/portable oxygen tanks
- = electric sealer
- = gas sterilizer; autoclave unit ⁷



Figure 35 Suction Machine

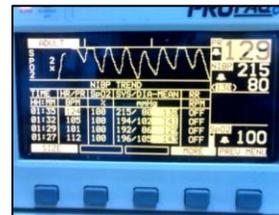


Figure 36 Cardiac Monitor



Figure 37 Cautery Machine



Figure 38 Center Light

Intraoperative Complications

- Nausea and Vomiting
- Hypoxia and Respiratory problems
- Hypothermia
- Malignant Hyperthermia

Transferring the Patient to the Post Anesthesia Care Unit

- Responsibility of the Anesthesiologist/anesthetist
- Anesthesia provider remains at the head of the stretcher, and a surgical team member remains at the opposite end.



Figure 39 Transport to PACU

- Transporting the patient involves special considerations of the patient's incision site.
- Patient is positioned so that he/she is not lying on or obstructing drains or drainage tubes.
- Arterial hypotension may occur if the patient is moved from 1 position to another.
- As soon as the patient is placed on the stretcher or bed, the soiled gown is removed and replaced with a dry gown.
- Patient is covered with lightweight blankets and warmed.
- Side rails are raised.

Chapter Activity

1. In a short bond paper draw an illustration of additional OR instruments and paraphernalia's.
2. Choose a movie related to Intraoperative Nursing and make a review and submit it to the class.

End Notes Citation

- 1, 5 Groah, Linda K. 1990. Operating Room Nursing: Preoperative Practice. 2nd Edition. USA: Appleton & Lange.
- 2, 3 Barela, Elena A. et.al. 2003. Operating Room Technique Instructional manual. 1st ed. Quezon City: Busybook Distributors.
- Figure 13 – 21 Goldman, Maxine A. 1996. Pocket Guide to the Operating Room. 2nd edition. Philadelphia: F.A. Davis Company.
- Figure 7 – 12, 32 – 34, 39 www.google.com/images
- 4 <http://delaune.DelmarNursing.com>.
- Figure 23 – 30, 35 - 38 Photographs by Domino B. Puson BSN, RN, MN
- Figure 31 Photographs courtesy of patient Mr. MBH, with permission.
- 6, 7 Rutherford, Collen J. 2005. Differentiating Surgical Instruments. Philadelphia, Pennsylvania: F.A. Davis Company
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Chapter 6

The Postoperative Period

Begins with the admission of the patient to the PACU and ends with follow-up evaluation in the clinical setting or home (as short as 1 week or as long as several months).

Nurses focus:

- Re-establishing the patient's physiological equilibrium
- Alleviating pain
- Preventing complications
- Teaching the patient self-care

Scope:

- Maintain patient's airway
- Monitor vital signs
- Assess effects of the anesthetic agents
- Assess the patient for complication
- Provide comfort and pain relief

The anesthetic impairs the client's ability to respond to environmental stimuli and to help them.

Moreover, surgery itself traumatizes the body by decreasing the body's energy and resistance.

The perioperative nurse functioning in the circulating role accompanies the patient to the postanesthesia care unit (PACU) where he or she will give a report to the postanesthesia care nurse. Information that the perioperative nurse should relay includes;

- Patient's psychological status prior to the induction of anesthesia
- Type of surgical procedure
- Location of tubes, drain, catheters, packing, dressings,
- Condition and color of the skin
- Actual or potential impairment of skin integrity
- Joint or limb mobility or impairment
- Primary language
- Respiratory function or dysfunction, to include whether the patient smokes
- Any special request that the patient may have verbalized preoperatively
- All pertinent intraoperative occurrences and complications.

Post Anesthesia Nursing Care

- Most patients who need the care of the PACU nurse have had a general or regional anesthetic.
- Some patients who have had a local or nerve block plus narcotics may also need care in a post-anesthesia recovery room, but the surgeon makes that decision.
- After it is evident that the patient is breathing normally and that his color, circulatory status, and general condition are satisfactory, it is usually safe to move him to the post-anesthesia recovery room.
- Objective: Provide care until the patient has recovered from the effects of anesthesia, is oriented, has stable vital signs, and shows no evidence of hemorrhage or other complications ¹

I. Goal: assist to an uncomplicated return to safe physiologic function after an anesthetic procedure providing safe, knowledgeable, and individualized nursing care for clients and their family members in the immediate post anesthesia phase.

II. Equipments in the PACU

- Sphygmomanometer or automated BP monitor.
- Pulse oximeter - a non-invasive device that measures O₂ sat. Of arterial blood and pulse rate; provides warning of hypoxia.
- Stethoscope – to auscultates breath, Korotkoff sound and BP
- Cardiac monitor and electrodes.
- Intravenous equipments
- Suction equipment
- Supplies to support respiration
- Medications (analgesics ,narcotics, narcotic antagonist, hypnotics, anti-HTN, muscle relaxants)
- Emesis basin, mouth wipes, bedpan, urinals
- Thermometers
- Warmed blankets, thermal blankets
- Emergency cart

III. Receiving client from OR to PACU

- Proper positioning to ensure patent airway.
 - Preferred position is lateral sim's position, however this will depend on the surgery performed, and Right side lying position allows the tongue to fall forward and mucus and vomitus to drain from the mouth.
 - Extend the neck and thrust the jaw forward
 - Suction equipment must be on standby.
- Appropriate endorsement
 - The PACU nurse receives a detailed, verbal report, from the OR team

- The endorsement would include:
 - Operative procedure performed
 - Medical diagnosis, pertinent medical history, and daily medications
 - Vital Signs
 - Blood loss, fluid replacements
 - Urine output and presence of indwelling urinary catheters.
 - Anything eventful or complications during surgery
 - Anesthetic agents, narcotics, NMJ blockers, antibiotics
 - Drains inserted their locations and purpose.
 - Physicians orders to be carried out ASAP

IV. Immediate Assessment

- Dressing, Tubes and Drains
 - The nurse checks the IV lines for patency, the type of fluid infusing and the rate. Connects drainage tubes as needed and checks the surgical site for drainage or bleeding.
- Respiratory Function
 - Assess the rate depth and equality of respirations, including the chest movements and compare with the baseline data on the client's record
 - Assess for signs of respiratory obstruction which may be due to the occlusion of the pharynx by the tongue, spasm or edema of the airway, accumulation of secretions, or aspiration of vomitus.
 - Signs of respiratory obstruction include:
 - Restlessness (early sign)
 - Rapid thready pulse (early sign)
 - Noisy, irregular respirations
 - Use of accessory muscles and intercostals retractions
 - Apprehension or anxiety
 - Attempts to sit upright
 - Pallor and cyanosis (late)
 - Position an unconscious client on his side with face slightly down.
- Cardiovascular Function
 - Assess the client's pulse rate, and quality every 15 minutes. Until stable.
 - Pulse of more than 110 bpm or less 60 bpm should be reported. This may indicate internal hemorrhage.
 - BP every 15 minutes until stable then every 30 minutes. Report findings like a fall of more than 20 mmHg after surgery or a fall of 50 mmHg from the preoperative condition since certain anesthetic agents and muscle relaxants may cause postoperative hypotension and may also indicate hemorrhage and shock.

- Assess client's skin color and condition (especially the lips and nail beds) because these are indicators of tissue perfusion. A pale cyanotic cool and moist skin may be a sign of circulatory problems.
 - Assess for signs of common circulatory problems like hemorrhage, shock, cardiac arrest and postoperative hypotension.
 - SHOCK occurs as a result of massive hemorrhage or cardiac insufficiency with the following signs:
 - Increased RR and HR
 - Restlessness
 - Lowered BP
 - Cold clammy skin
 - Thirst
 - Pallor
 - Inspect the pt's dressing and the bed cloths underneath the client since excessive bloody drainage on dressings/bed cloths often indicate hemorrhage. The amount of drainage on dressings is recorded by describing the diameter of stains.
- Fluid Electrolyte Balance
 - The client's fluid intake and output are monitored.
 - Assess for signs of circulatory overload and for fluid and electrolyte imbalance.
 - Determine the color, consistency and the amount of drainage from all tubes and suction apparatus.
 - All tubes should be patent and all tubes and suction equipment should function properly.
 - If the client is receiving blood assess for signs of adverse reaction.
 - Neurologic Status
 - After general anesthesia clients awaken in the following sequence:
 - Unconsciousness
 - Responds to stimuli
 - Drowsiness
 - Awake but not oriented
 - Alert and oriented.

V. Nursing Care

- Protect the airway
 - Position head of a minimally responsive client to the side, with the chin extended forward to prevent respiratory obstruction. Any client who is unable to clear his own secretions must be suctioned.
 - An oral or nasal airway must be in place to maintain patency and control the tongue.

- The airway is a hollow plastic tube that is inserted into the nose or mouth and passes over the base of the tongue to keep the tongue from falling back into the throat and obstructing the anatomic airway. Oral airways should NEVER be taped in place because when patients regain their consciousness and their gag reflex return they spit the artificial airways. If it is left in place for too long, it can irritate the tissues and may stimulate vomiting and cause laryngospasms.
 - Whenever a client is extubated observe for crowing respirations which may be a sign of laryngospasm and may progress to respiratory distress. If in case this develops the client is then attached to a face mask delivery system and a positive pressure ventilation is applied.
 - However this management may not be enough and the client may be given succinylcholine IV to paralyze the muscles of respiration, thus mechanical ventilation maybe required. These clients require close monitoring and intermittent suctioning.
 - The nurse coordinates with the physicians(surgeon and anesthesiologist) and administers prescribed meds
 - Interventions may include continued oxygen administration, positive-pressure airway support, and use of reversal medications (Naloxone, Pralidoxime, pyridostigmine, atropine sulfate)
 - The use of oxygen delivery devices will also depend on the client's diagnosis or operation performed. Flow rates vary from 2-15 L/min. clients with COPD receive no more than 20% or 2L/min.
- Maintain Blood Pressure
 - Postoperative hypotension may arise from several etiologies including Side effects of anesthetics agents or pre-operative agents, rapid position changes, pain, fluid blood and electrolyte losses and peripheral pooling of blood after regional anesthesia.
 - A drop in the client's BP slightly below the client's baseline reading is common after surgery.
 - If the client appears to be going into shock the PACU nurse intervenes as follows:
 - Administering O2 or inc. its delivery rate
 - Raising the legs above level of the heart
 - Increasing the rate of IV unless contraindicated.
 - Notifying anesthesia provider and surgeon.
 - Providing meds as ordered such as: vasotonics and inotropic agents
 - Continuing to assess for client's response
 - *Hypertension* can also be an issue postoperatively; if it rises above preoperative baseline it should be referred immediately to prevent untoward complications.

- Monitor return of consciousness
 - Orientation to person is the first cognitive response to return after anesthesia. This is assessed by noting whether the client responds to his/her name. Be certain that if the client has hearing problems he is wearing his hearing aids.
 - Orientation to place is also vital to include ability to remember facts after being told.
 - Older clients with hepatic and renal impairment may take longer to regain orientation.
 - Postoperative delirium may occur with some procedures, such as open heart surgeries, so it is not safe to assume age-related senility.

- Assessment for return of sensation and motion.
 - Check for return of sensation and motion to extremities by asking client wiggle their toes; however, if the client underwent spinal anesthesia it takes a longer time for them to recover.
 - Movement of toes may signify that motor blockade is wearing off.

- Assess for Normothermia
 - Clients must have minimum temp. greater than 36.0°C (96° F) before they are discharged from the PACU. Heat loss in the OR may continue in the PACU if the client is not warmed properly.
 - Warm the client but do not over warm. The PACU nurse must also recognize that malignant hyperthermia may occur.

- Assess for perfusion
 - Assessment of *skin color, warmth and turgor* provides evidence of tissue perfusion. In clients with darker complexion verify your findings with another nurse.
 - Dusky, pale, cold, moist skin is a vital assessment that may signify impending shock. Verify this data with laboratory findings such as O2 sat and Hemoglobin levels before diagnosing shock.

- Assess surgical site
 - Note the drainage coming from the wound
 - If dressing is soaked, reinforce dressing but never change or open the dressing without prior notice from the physician.
 - If seepage is noted outline the border of the seepage or drainage for baseline data to include date and time noted.
 - If bleeding is suspected check for areas of downward flow.

- Promote fluids and electrolyte balance

- Assess fluid intake and output hourly, to include parenteral fluids, medication drips, nutritional support, colloid infusions, BT, drainage from urinary catheters, colostomies and other drainage systems.
- Assess condition of the insertion sites, central and peripheral lines, noting color, swelling, temperature, tenderness and other unusualities.
- Label infusions and time tape.
- Manage Drainage systems
 - Check patency, compare type of drainage with those expected from surgical procedure
- Promote comfort
 - Pain is the most common complaint postoperative; however the most common cause is inadequate analgesia.
 - Pain may be cause by poor positioning or discomfort such as a full bladder or bowel.
 - The goal is to provide adequate pain relief or reduce the intensity of pain.
- Maintain safety
 - Side rails raised
 - Orientation is must postoperative
 - Position bed to lowest possible level
 - Proper body alignment and positioning
 - Ensure that all equipments are functioning appropriately.

VI. Discharge from PACU

- Discharge of the patient from the post-anesthesia care unit is usually determined by
 - stabilization of the vital signs
 - level of consciousness
 - effect of surgery (some operations are more difficult for the body to adjust to) ²
- **ALDRETE POST-ANESTHESIA SCORING**
 - The Aldrete Postanesthesia Scoring System is a well established scoring system that has been used to determine when patients can be safely discharged from the postanesthesia care unit (PACU).
 - The criteria that are score include: Activity, Respiration, Circulation, Consciousness, and Skin color

- The V/S must be stable or at near preoperative levels. Each numbered entity is scored from 0-2, as score of 9-10 usually indicates that the client is ready to be transported out of the PACU.
- Other criteria that must be met before discharge:
 - there should only be moderate or light drainage before discharge
 - All essential postoperative care has been completed
 - Urine output is at least 0.5cc/kg/hr ³

Post Anesthesia Care Unit: MODIFIED ALDRETE SCORE					
Patient:		Final score:			
Room:		Surgeon:			
Date:		PACU nurse:			
Area of Assessment	Point Score	Upon Admission	After		
			1 h	2 h	3 h
Muscle Activity:					
Moves spontaneously or on command:					
• Ability to move all extremities	2				
• Ability to move 2 extremities	1				
• Unable to control any extremity	0				
Respiration:					
• Ability to breathe deeply and cough					
	2				
• Limited respiratory effort (dyspnea or splinting)					
	1				
• No spontaneous effort					
	0				
Circulation:					
• BP \pm 20% of preanesthetic level					
	2				
• BP \pm 20%–49% of preanesthetic level					
	1				
• BP \pm 50% of preanesthetic level					
	0				
Consciousness Level:					
• Fully awake					
	2				
• Arousable on calling					
	1				
• Not responding					
	0				
O₂ Saturation:					
• Able to maintain O ₂ sat >92% on room air					
	2				
• Needs O ₂ inhalation to maintain O ₂ sat >90%					
	1				
• O ₂ sat <90% even with O ₂ supplement					
	0				
Totals:					
Required for discharge from Post Anesthesia Care Unit: 7–8 points					
_____			_____		
Time of release			Signature of nurse		

Figure 40 Modified Aldrete Score

WOUND HEALING INTENTION

- Primary intention
 - Use of sutures or other wound closures to approximate the edges of an incision or clean laceration.
 - Healing by collagen synthesis
 - Minimal tissue defects and infection

- Little scarring; usually thin and flat
- Secondary Intention
 - Left open rather than closed with sutures
 - Heal by the generation of connective tissue
 - Increased risk of infection
 - More scarring; grafting may be needed
 - Pressure ulcers
- Tertiary
 - Also known as delayed primary closure
 - for contaminated wounds
 - They must be freed from infection and debris

POST-OP NURSING CARE: AFTER DISCHARGE FROM PACU

- After release from PACU, nursing care is similar to those done in PACU
- Most common complications are those related to spinal anesthesia and those affecting the *respiratory, cardiovascular, renal system and fluid and electrolyte balance.*
- ASSESSMENT AND CARE MEASURES
 - Assess respiratory status
 - Assess circulation
 - Assess neurologic status
- Monitor the Wound
 - Assess dressing, character and amount of drainage
 - Assess the wound for complications: evisceration, dehiscence, infection.
 - *Evisceration*
 - do not attempt to replace organs
 - Cover wound with moistened sterile dressings
 - Abdominal binder per physicians order.
 - *Dehiscence*
 - Treated as open wounds; kept clean, application of packing's and dressings and allowed to heal by secondary or tertiary intention.
 - *Infection*
 - appears 3-4 days postoperatively
 - Redness beyond the incision line
 - Edema that remains after the initial swelling
 - Increasing pain, increasing drainage, fever, malaise, anorexia
 - Leukocytosis
 - Wound cultures done and antibiotics started
- Monitor IV lines

- Monitor Drainage tubes
 - Check physicians postoperative order if tubes are to be attached to intermittent suction.
 - Irrigate tubes per order.

- Promote Comfort
 - PCA device may be attached to client postoperative

- Reduce Nausea and Vomiting
 - Postoperative nausea and vomiting (PONV) do not occur frequently
 - Risk factors are:
 - Client risk factors: ambulation, bowel obstruction/ileus, female gender, history of motion sickness, history of vomiting of previous anesthetized procedure, hypoglycemia, hypotension, obesity, swallowed blood, uncontrolled pain, young age
 - Type of surgery: eye, intra-abdominal, intracranial, laparoscopic, middle ear, testicular
 - Medications: Anticholinesterase, Etomidate, Isoflurane, Nitrous oxide, Pentothal, Propofol, Regional anesthetic above L5 spinal level

- PONV is stimulated by GIT distention or irritation, vagal stimulation, centers in the cerebrum, CTZ located in the floor of the 4th ventricle, rotation or disequilibrium of the vestibular labyrinth of the ear, increased ICP.

- Medications that may stimulate CTZ would include: morphine, meperidine, cardiac glycosides, and amphetamines.

- Treatment: anticholinergics, and type 1 Histamine receptor antagonist which reduce the excitability of labyrinth receptors, antidopaminergics which suppress the CTZ, GIT antispasmodics, to promote forward peristaltic movements and acupuncture. ⁴

Discharge Instruction and Care

- M - Medications
- E - Environment
- T - Treatment
- H - Health teachings
- O - Observable Signs and symptoms

- D - Diet
- S - Spirituality

Postoperative Complications

Circulatory problems

- Shock
 - Shock can often be prevented by attention to fluid balance and the administration of blood or blood substitutes during and after surgery.
 - Signs and Symptoms: appears nervous and apprehensive at first, but later becomes apathetic skin is cold and moist, and the lips are somewhat cyanotic. The pulse is rapid and thready, respirations are rapid and shallow, and the temperature is subnormal. The blood pressure begins to fall.
- Hemorrhage
 - Hemorrhage may be either evident (can be seen) or concealed (cannot be seen). *Primary* hemorrhage occurs at the time of surgery, *intermediary* hemorrhage occurs within the first few hours of surgery and *secondary* hemorrhage occurs some time after surgery.
 - Symptoms:
 - The patient who in hemorrhage is apprehensive, restless, and thirsty. His skin is cold, moist, and pale, and his temperature falls.
 - The pulse rate increases and respirations become rapid and deep.
 - As hemorrhaging continues the blood pressure continues to fall, and the patient's lips and conjunctivae become pale.
 - He will see spots before his eyes and hear ringing in his ears. The patient is weak but conscious.
- Femoral phlebitis or thrombosis
 - Phlebitis or thrombosis occurs most frequently after operation on the lower abdomen or in the course of severe septic diseases, such as peritonitis and ruptured ulcer.
 - The condition can be caused by several factors, including:
 - Injury to the vein by tight straps or leg holders at the time of surgery
 - Blanket roll under the knees.
 - Concentration of blood by loss of fluid or dehydration
 - Slowing of the blood flow in the extremity due to a lowered metabolism and depression of the circulation after operation.

- Signs and Symptoms: pain in the calf of the leg with swelling occurring within 1 to 2 days.
 - Treatment:
 - Administration of adequate fluids after surgery to prevent concentration of blood, leg exercises, and bandaging the legs with elastic bandages or antiembolic stockings as necessary.
 - Blanket rolls or pillows should not be placed under the knees.
 - Early ambulation is also important in preventing phlebitis and thrombosis because it prevents the stagnation of blood in the veins of the lower extremities.
 - If ordered, intermittent positive pressure breathing (IPPB) therapy may also be beneficial.
 - Active treatment of phlebitis or thrombosis includes ligation or removal of the affected veins and the administration of heparin.

Pulmonary complications

- Pulmonary complications are the most serious and most common postoperative complications.
- Predisposing causes of pulmonary complications include:
 - Preoperative trauma
 - Infections of the mouth, nose and throat
 - Irritating effect of the anesthetic, especially either on the respiratory mucous membranes, with a resultant increase in mucus secretion
 - Aspirations of vomitus
 - Shallow respirations after the operation because of the pain
 - History of heavy smoking or chronic respiratory diseases
 - Obesity, debilitation, age (very old and very young)
 - Smoke inhalation
- Atelectasis
 - When the mucous plug closes one of the bronchi entirely, there is a collapse of the pulmonary tissue beyond that point.
 - Signs and Symptoms: If sufficient lung tissue is involved, the patient will demonstrate the following:
 - Marked dyspnea
 - Tachycardia
 - Cyanosis
 - Anxiety
 - Fever (common)
 - Labored respirations
 - Prostration and pleural pain (usually referred to lower chest)
 - Treatment: removal of fluid or air by needle aspiration and sedation.

- Reduced significantly as a result of the more conservative and judicious use of preoperative and postoperative sedation and by early ambulation of postoperative patients.
- Other pulmonary complications that may occur later in the postoperative period are bronchitis, pneumonia, hypostatic pulmonary congestion, pleurisy, and pulmonary embolism.

Urinary complications

- Urinary retention
 - Urinary retention may occur following any operation
 - occurs most frequently after operations on the rectum, anus, vagina, or lower abdomen
 - The cause is thought to be a spasm of the bladder sphincter
 - Treatment depends on the individual patient but may include diuretics or increasing intravenous fluids. ⁵

Postoperative Positions

- Mastectomy: Semifowlers, with affected arm elevated.

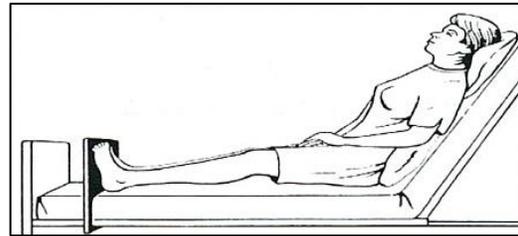


Figure 41 Semifowlers

- Hemorrhoidectomy; sidelying semiprone,

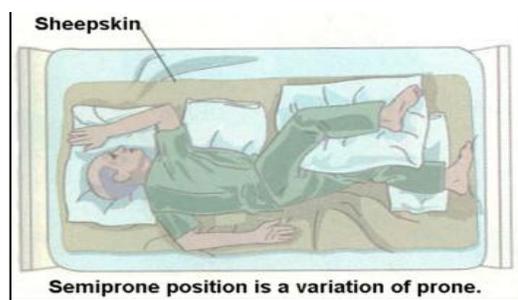


Figure 42 Semiprone

- Laryngectomy, Pneumonectomy; fowlers

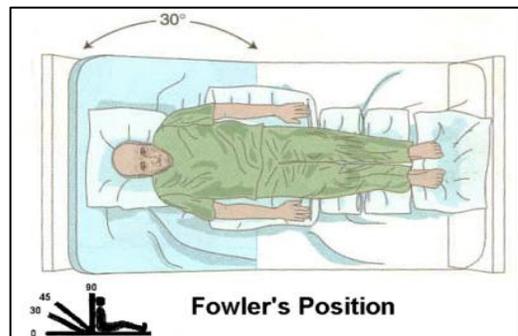


Figure 43 Fowlers Position

- Lobectomy; Lateral; unaffected side

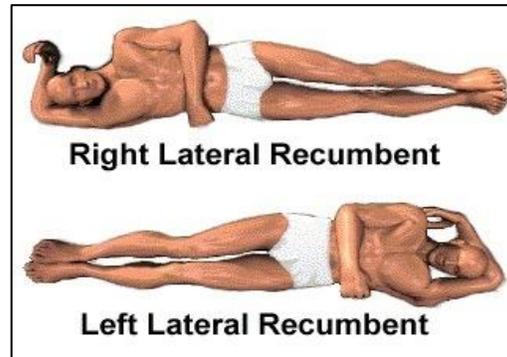


Figure 44 Lateral Position

- Aneurysm Repair (Abdomen); Cataract Surgery – fowler 45 degrees

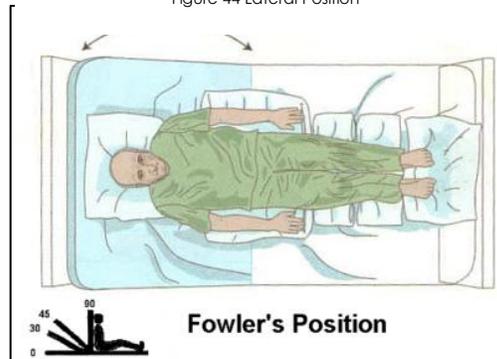


Figure 45 Fowler's Position

- Infratentorial Craniotomy: Flat on bed

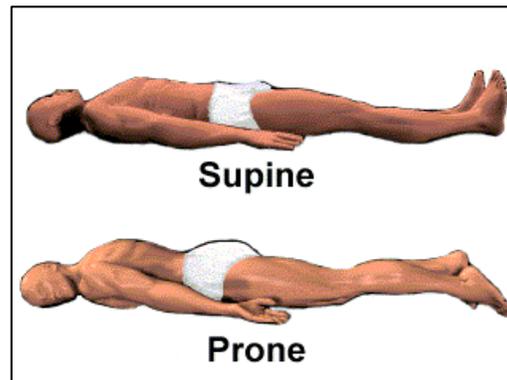


Figure 46 Supine

Postoperative Nutritional Needs

- Clear Liquid
 - Juice, clear, broth, plain, gelatin, ices, coffee, tea, popsicle, carbonated drinks.
- Full Liquid
 - ice cream, sherbet, yogurt, vegetable juices, puddings, custard.
- Soft Diet

- All clear + full + meat, vegetables, bread and cereals, pasta, cheese, potatoes, simple desserts, few soft riped fruits.

Discharge of Patient

- Stabilization of Vital Signs
- Level of Consciousness
- Effects of Surgery (some operation are more difficult for the body to adjust

Recovery

- Is defined as the return to a pre-operative level of performing activities of daily living. ⁶

Never say "Oops" in the **operating room**

~ Leo Troy

Chapter Activity

1. Interview a recovery room nurse and ask her about the job and report it to the class.
2. Draw an illustration of the Post Anesthesia Care Unit

End Notes Citation

- 1 Black, J. M. Jane Hokanson Hawks and Annabelle M. Keene. 2002. Medical-Surgical Nursing for Positive Outcomes. Philadelphia: W.B. Saunders Company.
- 2, 3, Figure 40 Bruner and Suddharth. 2008. Text Book on Medical Surgical Nursing. 10th edition. USA: Lippincott Williams and Wilkins.
- 4 Litwack, Kim. 1995. Core Curriculum for Post Anesthesia Nursing Practice. 3rd ed. Philadelphia: W.B. Saunders Company.
- 5 Smeltzer, Suzanne C. and Brenda G. Bare. 2000. Medical-Surgical Nursing. 9th ed. Vol. 1 & 2. Philadelphia: Lippincott Williams & Wilkins.

Figure 41- 46 www.google.com/images

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Chapter 7

Guidelines and Policies in the Operating Room

CNU – CN STUDENTS POLICIES and Policies Concerning Nursing Responsibilities Perioperatively

1. Students are expected to wear their complete duty uniforms when reporting to the Operating Room Department and will change into their operating theater suit inside the Student's Dressing Room. Operating Room suit consists of a cap, mask, operating room shoes or slippers, and scrub suit.

Students with incomplete uniform will be marked absent for one day and will not be allowed to enter the sterile area.

2. Nameplate is considered part of the uniform. Tampering and borrowing of other student's nameplate is punishable to two days replacement and will be asked to write an explanation letter. A student is not marked absent if he / she is able to present a receipt on that same day from a nameplate maker.
3. Operating Room bonnet or cap must cover the hair and ears completely. Failure to do so is equivalent to one hour replacement per offense.
4. Students requested for errand outside the operating room must change their operating room gown to a complete duty uniform. Cap of bonnet shall be removed and replaced with the nursing cap.
5. The Operating Room is not a place of social discourse therefore thoughtless comments and laughing are discouraged. Sitting or being idle, staying or lying down anywhere in the operating room is not allowed. Students caught doing the above offenses shall be given one day extension per offense and will be asked to write an explanation letter.
6. Bringing of digital and electronic devices inside the Operating Theater is highly discouraged. Losses of these belongings are not answerable by any parties involved. One day extension per offense is given to those who are found handling these devices.

7. Each student is required to perform a return demonstration after the clinical instructor has demonstrated stated procedures inside the mock Operating Room of the College of Nursing.
8. After each assisted case, the student is given three days to accomplish all the requirements and submit it to his/her respective clinical instructor. **A NO REQUIREMENT NO SIGNATURE POLICY SHOULD BE STRICTLY OBSERVED.** Thereafter, he/she is required to secure the Circulating Staff Nurse's signature. Affiliated instructions policy will be adapted in confiscating overdue cases. Students with confiscated cases shall be given 16 hours extensions of duty per case and will be asked to write an explanation letter.
9. Circulating student nurses are not allowed to leave the operating theater for the duration of the entire surgical procedure unless given permission to do so or with enough reason to perform such.
10. The immediate post-operative intervention and monitoring of the patient must be taken care of by the respective student circulating nurse.

Chapter 8

Related Learning Experience Teaching Plan and Competency Evaluation

Operating Room Nursing Teaching Plan

Cebu Normal University
College of Nursing
Cebu City

Mission-Vision: Care Using Knowledge and Compassion

RELATED LEARNING EXPERIENCE TEACHING PLAN
FOR OPERATING ROOM NURSING
Clinical Nursing / Professional Nursing Concept

Placement: Level III Professor: _____
Time Allotment: 40 Hours Clinical Division: OR and RR

DESCRIPTION OF THE CLINICAL EXPOSURE

This encompasses clinical experience in the operating room where the BSN Level III students render the pre-operative, intra-operative and post-operative nursing care utilizing their knowledge, skills and attitude.

ENTRY COMPETENCIES

Basic Anatomy and Physiology
Pharmacology, Diagnostics
Basic Nutrition, Diet Therapy

Fundamentals of Nursing
Health Ethics
Microbiology and Parasitology

INTERMEDIATE AND TERMINAL COMPETENCIES

Basic knowledge, skills and attitude towards perioperative care

GENERAL OBJECTIVES: At the end of the clinical experience, the BSN Level III students will acquire and develop knowledge, skills and proper attitude in the care of the client during the preoperative, intraoperative and postoperative periods.

Learning Tools	Specific Objectives	Teaching-Learning Activities	Instructional Resources	Evaluation
Orientation	<p>Given at least 2 hours the BSN Level III will</p> <ol style="list-style-type: none"> 1. familiarize themselves with the rules and regulations of CNU-CN regarding exposure to the operating room, its policies, physical set-up, staff and personnel. 2. Recall the fundamental principles of self-conduct and nursing ethics significant in dealing with other members of the health care team. 	<ol style="list-style-type: none"> 1. Orientation on the following: <ol style="list-style-type: none"> 1.1 Objectives of the exposure 1.2 CNU-CN rules and regulations 1.3 VSMMC operating room policies, set-up, staff and personnel. 2. Physical tour 	<p>Clinical Teaching Plan</p> <p>Operating Room Manual Performance Rating Scale</p> <p>VSMMC-OR Theater CCMC-OR Theater PCMHI-OR Theater SAMCH- OR Theater</p>	<p>Graded Performance Rating Scale</p>

Learning Tools	Specific Objectives	Teaching-Learning Activities	Instructional Resources	Evaluation
	<p>3. Practice the principles of surgical asepsis.</p> <p>4. Identify the various roles and functions of the operating room nurse and other members of surgical team.</p> <p>5. Participate with the surgical team in the preoperative assessment of a client in terms of:</p> <p>5.1 Nursing History</p> <p>5.2 Physical Exam</p> <p>5.3 Diagnostics</p>	<p>3. Briefing and giving of assignments in the following areas:</p> <p>3.1 Supply Area</p> <p>3.2 Recovery Room</p> <p>3.3 Operating Room</p> <p>4. Observation of the nurses roles and functions in the Operating Room, Work Room and Recovery Room</p> <p>Orientation by the Operating Room Supervisor.</p> <p>Supervised intraoperative care</p> <p>5. Perform nursing assessment extensively.</p>	<p>Instruments</p> <p>Packs</p> <p>Operating Room Manual</p>	<p>Graded return demonstration using OR PRS</p> <p>Pencil and Paper Test</p> <p>Graded Assessment</p>

Learning Tools	Specific Objectives	Teaching-Learning Activities	Instructional Resources	Evaluation
	<p>6. Formulate nursing diagnosis based on identified human responses.</p> <p>7. Set goals of care for each identified nursing responses.</p> <p>8. Assist at least 5 major and minor surgeries following the principles of surgical asepsis.</p> <p>9. Utilize advocacy role in the management of clients undergoing surgery.</p> <p>10. Assist the other health care team in the conduct of interventions geared toward recovery.</p> <p>11. Evaluate outcome of preoperative, intraoperative and postoperative care.</p>	<p>6. Formulate nursing care plan in the three phases of perioperative care.</p> <p>7. Formulate nursing care plan in the three phases of perioperative care.</p> <p>8. Able to function and identify roles in the care of client during surgery.</p> <p>9. Supervised postoperative care in the following:</p> <ol style="list-style-type: none"> 1. Immediate postoperative 2. Intermediate postoperative and 3. Intermediate postoperative care <p>Case Presentation Oral Revalida Evaluation Exam</p>	<p>Video Presentation</p>	<p>Graded NCP</p> <p>Evaluation Test Oral revalida</p>

Performance Rating Scale

_____ INTRAOPERATIVE MAJOR ASSIST

Please encircle the appropriate value column

Poor	.....	1
Fair	.....	2
Good	.....	3
Very Good	.....	4
Excellent	.....	5

Preliminary Preparations

1.	Reports to the assigned OR after endorsement.	1	2	3	4	5
2.	Cleans and disinfects the assigned operating room.	1	2	3	4	5
3.	Prepares the following:					
3.1	Sets of Pack	1	2	3	4	5
3.2	Patient	1	2	3	4	5
3.3	Garbage Can	1	2	3	4	5
4.	Observes the circulating staff nurse/clinical instructor in opening the pack or drapes on the back-up table	1	2	3	4	5
5.	Observes the circulating staff nurse/clinical instructor in preparing the Mayo table by sliding the cover on.	1	2	3	4	5
B.	Surgical Hand scrubbing					
1.	Skin and nails should be kept clean.	1	2	3	4	5
2.	Remove finger jewelry	1	2	3	4	5

3. Make sure hair is covered by headgear. Hair studs should be covered.	1	2	3	4	5
4. Adjust disposable mask snugly and comfortably over the nose and mouth	1	2	3	4	5
5. Adjust eyeglasses in relation to mask.	1	2	3	4	5
6. Adjust faucet and flow of water. Perform medical hand washing as a pre-scrub wash.	1	2	3	4	5
7. Pre-tear package containing brush; lay the brush on the back of the scrub sink	1	2	3	4	5
8. Remove the sterile brush and file, moisten brush and work up lather. Soap fingertips and clean the spaces under the fingernails of both hands under running water; discard file.	1	2	3	4	5
9. Lather finger tips with sponge-side of brush; then, using bristle side of brush, scrub the spaces under the fingernails of the right or left hand 30 circular strokes. When scrubbing, slightly bend forward, hold hands and arms above the elbow, and keep arms away from the body.	1	2	3	4	5
10. Lather digits; scrub 20 circular strokes on all four sides of each finger.	1	2	3	4	5
11. Lather palm, back of hand, heel of hand, and space between thumb and index finger. Choosing either of the surfaces, scrub 20 circular strokes on each surface.	1	2	3	4	5
12. You are now ready to scrub the forearm. Divide your arm in three inch	1	2	3	4	5

increments. The brush should be approximately three inches lengthwise. Use the sponge-side of the brush lengthwise to apply soap around wrist. Scrub 20 circular strokes on all four sides; move up the forearm -- lather, then scrub, ending two inches above the elbow.

- | | | | | | |
|--|---|---|---|---|---|
| 13. Soap and or water may be added to the brush at any time. | 1 | 2 | 3 | 4 | 5 |
| 14. Repeat steps 3 through 6 above for the other arm | 1 | 2 | 3 | 4 | 5 |
| 15. Discard brush. | 1 | 2 | 3 | 4 | 5 |
| 16. Rinse hands and arms without retracing and or contaminating. | 1 | 2 | 3 | 4 | 5 |
| 17. Allow the water to drip from your elbows before entering the operating room. | 1 | 2 | 3 | 4 | 5 |

C. Gowning

- | | | | | | |
|---|---|---|---|---|---|
| 1. Slightly bend forward, pick up the hand towel from the top of the surgical packs and step back from the table. Grasp the towel and open it so that it is folded to double thickness lengthwise. Do not allow the towel to touch any unsterile part of your body. | 1 | 2 | 3 | 4 | 5 |
| 2. Holding one end of the towel with one of your hands, dry your other hand and arm with a blotting, rotating motion. Work from your fingertips to the elbow; DO NOT retrace any area. | 1 | 2 | 3 | 4 | 5 |
| 3. Dry all sides of the fingers, the forearm, and the arm thoroughly. If moisture is left on your fingers and hands, donning the surgical gloves will be difficult. Moisture left on the arms may seep through surgical cloth gowns, thus contaminating them | 1 | 2 | 3 | 4 | 5 |
| 4. Grasp the other end of the towel and dry your other hand and arm in the same manner as above. Discard the towel into a linen receptacle | 1 | 2 | 3 | 4 | 5 |

(the circulator may take it from the distal end).

- | | | | | | | |
|------------|--|---|---|---|---|---|
| 5. | Reaches the sterile table and grasps the sterile gown carefully | 1 | 2 | 3 | 4 | 5 |
| 6. | Steps back away from the sterile table to provide a wide margin of safety. | 1 | 2 | 3 | 4 | 5 |
| 7. | Holds the inside front of gown just below the neckband with both hands. | 1 | 2 | 3 | 4 | 5 |
| 8. | Unfolds the gown keeping the inside of the gown towards the body. Avoids touching the outside of gown with bare hands. | 1 | 2 | 3 | 4 | 5 |
| 9. | Holds the gown at the shoulder level, slips both arms into the armholes simultaneously. | 1 | 2 | 3 | 4 | 5 |
| 10. | Requests circulating nurse to fasten the gown at the back. | 1 | 2 | 3 | 4 | 5 |
| D. Gloving | | | | | | |
| 1. | Places the right glove on the right palm. | 1 | 2 | 3 | 4 | 5 |
| 2. | Through the gown, grasps the folded cuff of the gown with the right thumb. | 1 | 2 | 3 | 4 | 5 |
| 3. | While gripping the glove, makes a fist and stretches the cuff over the hand, aiming to cover the knuckles and thumb just before straightening the fingers of the right hand. | 1 | 2 | 3 | 4 | 5 |
| 4. | With the gloved right hand, picks the left | 1 | 2 | 3 | 4 | 5 |

glove and places it on the right wrist.

- | | | | | | |
|--|---|---|---|---|---|
| 5. Through the gown grasp the folded cuff of the gown with the left thumb. | 1 | 2 | 3 | 4 | 5 |
| 6. While gripping the glove, make a fist and stretch the upper cuff over the hand aiming to cover the knuckles and thumb just before straightening the fingers of the left hand. | 1 | 2 | 3 | 4 | 5 |
| 7. Make a fist and pull the glove over the gown and manoeuvre to give a good fit. | 1 | 2 | 3 | 4 | 5 |

E. Preparation of the instruments on the Back-up and Mayo Table

- | | | | | | |
|---|---|---|---|---|---|
| 1. Arranges the paraphernalia on the back-up table. | | | | | |
| 1.1 Gowns and drapes | 1 | 2 | 3 | 4 | 5 |
| 1.2 Gloves | 1 | 2 | 3 | 4 | 5 |
| 1.3 Visceral packs | 1 | 2 | 3 | 4 | 5 |
| 1.4 OS | 1 | 2 | 3 | 4 | 5 |
| 2. Gets the towel on the Mayo tray and makes a pillow for the back-up table. | 1 | 2 | 3 | 4 | 5 |
| 3. Arranges further the following: | | | | | |
| 3.1 Kidney basin | 1 | 2 | 3 | 4 | 5 |
| 3.2 Bowl | 1 | 2 | 3 | 4 | 5 |
| 3.3 Instruments | 1 | 2 | 3 | 4 | 5 |
| 3.4 Sharp instruments | 1 | 2 | 3 | 4 | 5 |
| 4. Makes a pillow for the Mayo tray and places it on its proper place. | 1 | 2 | 3 | 4 | 5 |
| 5. Counts the instruments and paraphernalia. Make sure that the instruments are functional. | 1 | 2 | 3 | 4 | 5 |

6.	Detaches the “locked instruments” usually ovum or Babcock forceps.	1	2	3	4	5
7.	Continue to arrange and prepares the following:					
7.1	Back-up table					
7.1.1	Instruments	1	2	3	4	5
7.1.2	Suture ligature	1	2	3	4	5
7.1.3	Sponge stick	1	2	3	4	5
7.1.4	Stick tie	1	2	3	4	5
7.1.5	Peanuts	1	2	3	4	5
7.1.6	Bonewax	1	2	3	4	5
7.1.7	Cottonoids	1	2	3	4	5
7.1.8	Betadinized OS	1	2	3	4	5
7.1.9	Courtesy pencil	1	2	3	4	5
7.1.10	Suction tubing	1	2	3	4	5
7.1.11	Cherry balls	1	2	3	4	5
7.1.12	Medium Strips	1	2	3	4	5
7.2	Mayo table					
7.2.1	Blade	1	2	3	4	5
7.2.2	Sharps	1	2	3	4	5
7.2.3	Forceps	1	2	3	4	5
7.2.4	Bondage scissor	1	2	3	4	5
7.2.5	Free tie	1	2	3	4	5
7.2.6	Curves	1	2	3	4	5
7.2.7	Allis	1	2	3	4	5
7.2.8	Babcock	1	2	3	4	5
7.2.9	Ochsner/Cockers	1	2	3	4	5
7.2.10	Heaney	1	2	3	4	5
7.2.11	Mixters	1	2	3	4	5

Note: The above preparations are not always presently in all operations. This is only to prepare the student to all possible preparations.

F.	Gowning the Surgeon and Assistants					
1.	Picks up sterile gown and serves the lower hemline to the surgeon and/or	1	2	3	4	5

	assistants for drying their hands.					
2.	Unfolds the gown carefully and locates the landmarks then offers the wrongside of the gown to the surgeon and/or assistants.	1	2	3	4	5
3.	Releases the gown making sure that it is properly served.	1	2	3	4	5
G. Gloving the Surgeon and Assistants						
1.	Picks up the right glove, grasps firmly the glove with four fingers under elevated cuff. Holds the palm of the glove toward the surgeon.	1	2	3	4	5
2.	Stretches the cuff sufficiently for the surgeon to insert by pointing thumbs outward.	1	2	3	4	5
3.	Unfolds the inverted glove cuff over the cuff of the sleeves.	1	2	3	4	5
4.	Repeats the procedure above for the left hand.	1	2	3	4	5
H. Draping the Client and Assisting the Surgery						
1.	Passes the drapes to the surgeon and assistants.	1	2	3	4	5
2.	Hands in two OS to the surgeon.	1	2	3	4	5
3.	Watches the operation and	1	2	3	4	5

anticipates the surgeon's needs.

- | | | | | | |
|---|---|---|---|---|---|
| 4. Maintains sterility, arranges and clean the area as well as the instruments. | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|

I. After Care

1. Scrub Nurse

- | | | | | | |
|---|---|---|---|---|---|
| 1.1 Without removing the gloves and gown, gathers all the instruments | 1 | 2 | 3 | 4 | 5 |
| 1.2 Washes all the instruments used. | 1 | 2 | 3 | 4 | 5 |
| 1.3 Soaks the instruments with biomilk for 3 to 5 minutes. | 1 | 2 | 3 | 4 | 5 |
| 1.4 Dries the instruments. | 1 | 2 | 3 | 4 | 5 |
| 1.5 Arranges the instruments and places the indicator. | 1 | 2 | 3 | 4 | 5 |
| 1.6 Copies the previous label and makes a new label then signs it legibly. | 1 | 2 | 3 | 4 | 5 |
| 1.7 Requests the circulating staff nurse to check and countersigns the label | 1 | 2 | 3 | 4 | 5 |
| 1.8 Packs the signed instruments and placed it in the workroom for sterilization. | 1 | 2 | 3 | 4 | 5 |

2. Circulating Nurse

- | | | | | | |
|--|---|---|---|---|---|
| 2.1 Discards the contents of the garbage can | 1 | 2 | 3 | 4 | 5 |
|--|---|---|---|---|---|

2.2 Assist in transporting the client to the 1 2 3 4 5
recovery room

2.3 Cleans the operating room 1 2 3 4 5

Total:

Equivalent:

Clinical Instructor

SUMMARY PERFORMANCE EVALUATION ACHIEVING
 INTRAOPERATIVE CARE COMPETENCY
 In accordance with PRC Board of Nursing Memorandum No. 01 Series 2009

Signature over printed name of student: _____ Date: _____

MAJOR CASE

INTRA – OPERATIVE COMPETENCIES	DESIRED RATING	RATING	AVERAGE RATING
I. SAFE AND QUALITY NURSING CARE (SQC)			
1. Utilizes the nursing process in the care of OR client			
a. Obtains comprehensive clients information by checking complete accomplishment of the preoperative checklist / clients chart.	4		
b. Identifies priority needs of the client at the Operating Room	4		
c. Provides needed nursing interventions based on the	4		
d. identified needs	2		
e. Monitor clients responses to surgery	2		
2. Promotes safety and comfort of patients inside the OR	2		
3. Performs the functions of the scrub nurse			
a. Performs surgical scrub correctly	4		
b. Wears sterile gowns and gloves aseptically	2		
c. Prepare surgical instrument, sponges, sutures and other supplies in functional arrangement	2		
d. Hands instrument, sponges, sutures, and other needed materials according to surgeons preference	2		
e. Performs surgical count accurately	2		
4. Performs the function of the circulating nurse			
a. Anticipates the need of the surgical team	2		

b. Sets up the OR room and needed equipment	2		
c. Receives client for surgery / endorses client postoperatively	2		
d. Assist in skin preparation and draping of client	2		

INTRA – OPERATIVE COMPETENCIES	DESIRED RATING	RATING	AVERAGE RATING
e. Administers medication and other health therapeutics safely	2		
II. MANAGEMENT OF RESOURCES AND ENVIRONMENT (MRE)			
1. Organize workload to organize timely patient care	4		
2. Utilizes adequate and appropriate resources to support the OR Team	2		
3. Ensures functionality of OR resources	2		
4. Maintains a safe environment at the OR by observing the principles of Asepsis.	2		
III. HEALTH EDUCATION (HE)			
1. Implements appropriate health education activities to clients based on needs assessment	2		
IV. LEGAL RESPONSIBILITIES(LR)			
1. Adheres to institutional and legal protocols regarding informed consent	2		
V. ETHICO-MORAL RESPONSIBILITIES (EMR)			
1. Respects the rights of the OR client	2		
2. Accepts responsibility and accountability for own decisions and actions as an OR nurse	2		
VI. PERSONAL AND PROFESSIONAL DEVELOPMENT (PPD)			
1. Performs OR functions according to professional standards	4		
2. Possess positive attitude towards learning surgical and OR related knowledge and skills	2		
VII. QUALITY IMPROVEMENT (QI)			
1. Participates in quality improvement activities related to infection control and successful OR Operations	2		
2. Identifies and reports variances in sterility and other OR activities	2		

VIII. RESEARCH (R)			
1. Disseminates results of OR related research findings to clinical group and other members of the OR team as appropriate.	2		
IX. RECORD MANAGEMENT (RM)			
1. Maintain accurate and updated documentation of patient care	2		
INTRA – OPERATIVE COMPETENCIES		DESIRED RATING	AVERAGE RATING
X. COMMUNICATION (COMM)			
1. Establishes rapport with patients, significant others and members of the health team	1		
2. Uses appropriate information mechanisms to facilitate communication inside the OR and with other departments in the hospital.	2		
XI. COLLABORATION AND TEAMWORK (CTM)			
1. Collaborates plan of care with other members of the health team.	2		
TOTAL SCORE	75		

Certified True and Correct:

Student

Clinical Instructor

Implications:

Cardiopulmonary Clearance

Findings:

Implications:

Blood Examination

Findings:

Implications:

Urine Examination

Findings:

Implications:

Specimen Examination

Findings:

Implications:

Other Diagnostic Tests

Findings:

Implications:

3. Preoperative Data Related to the Surgery to be Performed

Preoperative Diagnosis

Anatomy and Physiology	Pathophysiology

Medications

Preoperative Medications and Anesthetic Agent

Name of Drug	Mechanism of Action	Nursing Responsibilities
Dosage	Side Effects	

Name of Drug	Mechanism of Action	Nursing Responsibilities
Dosage	Side Effects	

Name of Drug	Mechanism of Action	Nursing Responsibilities
Dosage	Side Effects	

Name of Drug	Mechanism of Action	Nursing Responsibilities
Dosage	Side Effects	

Pack to be used: _____

Contents: _____

Set to be used: _____

Contents: _____

Sutures (Sutures must be written from internal to external layer)

SUTURES	LAYERS	TYPE OF NEEDLE

Additional Instruments and Paraphernalia

INSTRUMENTS	PARAPHERNALIA

Preoperative Nursing Diagnoses

1. _____
2. _____
3. _____
4. _____
5. _____

Preoperative Nursing Goal and Intervention

1. Preoperative Care

Psychological Care

Health Instructions

Physical Preparation

Diet _____

GIT Preparation_____

POSTOPERATIVE PERIOD

Patient's Profile

Name of Client: _____ Age: _____

Time the operation started: _____ Ended: _____

Postoperative Nursing Assessment

1. Immediate Postoperative (Postanesthetic Period)

Nursing Assessment

Baseline assessment findings:

Postoperative Nursing Diagnoses

1. _____
2. _____
3. _____
4. _____
5. _____

Goal of Care and Nursing Responsibilities

Maintenance of Pulmonary Ventilation

Maintenance of Circulation

Protection from injury and promotion of comfort

Cebu Normal University
College of Nursing
Cebu City

Mission-Vision: Care Using Knowledge and Compassion

PREOPERATIVE NURSING CARE PLAN

NCP Scoring System	10 pts	Defining Characteristics	3 pts	Intervention	3pts
Nursing Dx	2 pts	Outcome	1 pt	Bibliography	1 pt

Client's Name: _____

Age: ____ Sex: _____ Civil Status: ____ Religion: ____

Allergies: Food: _____

Drug: _____

Diet: _____

Date of Admission: _____

Diagnosis: _____

Clinical Division and Bed No. _____

Name of Student: _____

Patient Care Classification :(Please Check)

____ *Wholly Compensatory*: Patients

therapeutic self-care is accomplished by nurse

____ *Partially Compensatory*: Patients perform
some self-care measures

____ *Supportive Educative*: Patients

accomplish self-care measures

Name of Physician: _____

DEFINING CHARACTERISTICS	OUTCOME CRITERIA	INTERVENTION AND RATIONALE
Theoretical Basis:	Long Term	Dependent

Cebu Normal University
College of Nursing
Cebu City

Mission-Vision: Care Using Knowledge and Compassion

POSTOPERATIVE NURSING CARE PLAN

NCP Scoring System	10 pts	Defining Characteristics	3 pts	Intervention	3pts
Nursing Dx	2 pts	Outcome	1 pt	Bibliography	1 pt

Client's Name: _____

Age: ____ Sex: _____ Civil Status: ____ Religion: ____

Allergies: _____ Food: _____

Drug: _____

Diet: _____

Date of Admission: _____

Diagnosis: _____

Clinical Division and Bed No. _____

Name of Student: _____

Patient Care Classification :(Please Check)

____ *Wholly Compensatory*: Patients

therapeutic self-care is accomplished by nurse

____ *Partially Compensatory*: Patients perform

some self-care measures

____ *Supportive Educative*: Patients

accomplish self-care measures

Name of Physician: _____

DEFINING CHARACTERISTICS	OUTCOME CRITERIA	INTERVENTION AND RATIONALE
Theoretical Basis:	Long Term	Dependent

Related Learning Requirements

MAJOR NUMBER FOUR

Name of Patient: _____

Date Assisted: _____ Case Number: _____

Agency: _____ Time Started: _____ Time Ended: _____

Proposed Operation:

Operation Performed:

Anesthesia (type, agents used):

Name of Surgeon:

Given Name Family Name M.I.

Circulating Nurse: _____
Signature Over Printed Name

Clinical Instructor: _____
Signature Over Printed Name

Area Coordinator, Operating Room: _____
Signature Over Printed Name

Cebu Normal University
 College of Nursing
 Osmeña Boulevard Cebu City 6000
 254 – 4837 / cnucollegeofnursing@live.com.ph

SUMMARY PERFORMANCE EVALUATION ACHIEVING
 INTRAOPERATIVE CARE COMPETENCY
 In accordance with PRC Board of Nursing Memorandum No. 01 Series 2009

Signature over printed name of student: _____

SUMMARY of MAJOR CASE

INTRA – OPERATIVE COMPETENCIES	DESIRED RATING	1	2	3	AVERAGE RATING
I. SAFE AND QUALITY NURSING CARE (SQC)					
1. Utilizes the nursing process in the care of OR client	4				
a. Obtains comprehensive clients information by checking complete accomplishment of the preoperative checklist / clients chart.	4				
b. Identifies priority needs of the client at the Operating Room	4				
c. Provides needed nursing interventions based on the	4				
d. identified needs	2				
e. Monitor clients responses to surgery	2				
2. Promotes safety and comfort of patients inside the OR	2				
3. Performs the functions of the scrub nurse	4				
a. Performs surgical scrub correctly	2				
b. Wears sterile gowns and gloves aseptically	2				
c. Prepare surgical instrument, sponges, sutures and other supplies in functional arrangement	2				
d. Hands instrument, sponges, sutures, and other needed materials according to surgeons preference	2				
e. Performs surgical count accurately	2				
4. Performs the function of the circulating nurse	2				
a. Anticipates the need of the surgical team	2				
b. Sets up the OR room and needed equipment	2				

c. Receives client for surgery / endorses client postoperatively	2				
d. Assist in skin preparation and draping of client	2				

INTRA – OPERATIVE COMPETENCIES	DESIRED RATING	1	2	3	AVERAGE RATING
e. Administers medication and other health therapeutics safely	2				
II. MANAGEMENT OF RESOURCES AND ENVIRONMENT (MRE)					
1. Organize workload to organize timely patient care	4				
2. Utilizes adequate and appropriate resources to support the OR Team	2				
3. Ensures functionality of OR resources	2				
4. Maintains a safe environment at the OR by observing the principles of Asepsis.	2				
III. HEALTH EDUCATION (HE)					
1. Implements appropriate health education activities to clients based on needs assessment	2				
IV. LEGAL RESPONSIBILITIES(LR)					
1. Adheres to institutional and legal protocols regarding informed consent	2				
V. ETHICO-MORAL RESPONSIBILITIES (EMR)					
1. Respects the rights of the OR client	2				
2. Accepts responsibility and accountability for own decisions and actions as an OR nurse	2				
VI. PERSONAL AND PROFESSIONAL DEVELOPMENT (PPD)					
1. Performs OR functions according to professional standards	4				
2. Possess positive attitude towards learning surgical and OR related knowledge and skills	2				
VII. QUALITY IMPROVEMENT (QI)					
1. Participates in quality improvement activities related to infection control and successful OR Operations	2				
2. Identifies and reports variances in sterility and other OR activities	2				
VIII. RESEARCH (R)					

1. Disseminates results of OR related research findings to clinical group and other members of the OR team as appropriate.	2				
IX. RECORD MANAGEMENT (RM)					
1. Maintain accurate and updated documentation of patient care	2				
INTRA – OPERATIVE COMPETENCIES					
	DESIRED RATING	1	2	3	AVERAGE RATING
X. COMMUNICATION (COMM)					
1. Establishes rapport with patients, significant others and members of the health team	1				
2. Uses appropriate information mechanisms to facilitate communication inside the OR and with other departments in the hospital.	2				
XI. COLLABORATION AND TEAMWORK (CTM)					
1. Collaborates plan of care with other members of the health team.	2				
TOTAL SCORE	75				

Certified True and Correct:

 Clinical Instructor
 License Number: _____
 PRC Card – Validity Date: _____

 Clinical Instructor
 License Number: _____
 PRC Card – Validity Date: _____

 Dean
 License Number: _____
 PRC Card – Validity Date: _____

 Academic Year Graduated

MINOR NUMBER 1

Name of Patient: _____ Age: _____

Date Admitted: _____

Address: _____

Date Assisted: _____ Case Number: _____

Agency: _____ Time Started: _____ Time Ended: _____

Pre Op Diagnosis: _____

Proposed Operation: _____

Operation Performed:

Anesthesia (Type, Agents Used): _____

Surgeon(s): _____

Post Op Diagnosis:

Nurse on Duty

Clinical Instructor

Coordinator, Operating Room Area

MINOR NUMBER 2

Name of Patient: _____ Age: _____

Date Admitted: _____

Address: _____

Date Assisted: _____ Case Number: _____

Agency: _____ Time Started: _____ Time Ended: _____

Pre Op Diagnosis: _____

Proposed Operation:

Operation Performed:

Anesthesia (Type, Agents Used:

Surgeon(s): _____

Post Op Diagnosis:

Nurse on Duty

Clinical Instructor

Coordinator, Operating Room Area

MINOR NUMBER 3

Name of Patient: _____ Age: _____

Date Admitted: _____

Address: _____

Date Assisted: _____ Case Number: _____

Agency: _____ Time Started: _____ Time Ended: _____

Pre Op Diagnosis: _____

Proposed Operation: -

Operation Performed:

Anesthesia (Type, Agents Used):

Surgeon(s): _____

Post Op Diagnosis:

Nurse on Duty

Clinical Instructor

Coordinator, Operating Room Area

MINOR NUMBER 4

Name of Patient: _____ Age: _____

Date Admitted: _____

Address: _____

Date Assisted: _____ Case Number: _____

Agency: _____ Time Started: _____ Time Ended: _____

Pre Op Diagnosis: _____

Proposed Operation:

Operation Performed:
Anesthesia (Type, Agents Used):

Surgeon(s): _____

Post Op Diagnosis:

Nurse on Duty

Clinical Instructor

Coordinator, Operating Room Area

MINOR NUMBER 5

Name of Patient: _____ Age: _____

Date Admitted: _____

Address: _____

Date Assisted: _____ Case Number: _____

Agency: _____ Time Started: _____ Time Ended: _____

Pre Op Diagnosis: _____

Proposed Operation:

Operation Performed:

Anesthesia (Type, Agents Used):

Surgeon(s): _____

Post Op Diagnosis:

Nurse on Duty

Clinical Instructor

Coordinator, Operating Room Area

MAJOR CIRCULATING CASE RECORD 1

Name of Patient: _____ Sex: _____ Civil status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural): _____

Instrument/Set used (specify, include quantity): _____

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MAJOR CIRCULATING CASE RECORD 2

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural): _____

Instrument/Set used (specify, include quantity): _____

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MAJOR CIRCULATING CASE RECORD 3

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural):

Instrument/Set used (specify, include quantity):

Additional (not part of set)

Paraphernalia/Supplies Added (include quantity):

Sutures (specify name and quantity):

Free ties (specify):

Time Specimen taken / Baby out:

Accounting	Time	Remarks
1 st count		
2 nd count		
3 rd count		
4 th count		

Narrative charting (do a brief, concise and complete nursing narration of intervention.)

Washings:

Operation(s) Performed:

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MAJOR CIRCULATING CASE RECORD 4

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital : _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of dainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural):

Instrument/Set used (specify, include quantity):

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage:n _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care

Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MAJOR CIRCULATING CASE RECORD 5

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural):

Instrument/Set used (specify, include quantity):

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage:n _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care

Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MINOR CIRCULATING CASE RECORD 1

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural): _____

Instrument/Set used (specify, include quantity): _____

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage:n _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MINOR CIRCULATING CASE RECORD 2

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural): _____

Instrument/Set used (specify, include quantity): _____

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature
Name/Signature

Clinical Instructor's

MINOR CIRCULATING CASE RECORD 3

Name of Patient: _____ Sex: _____ Civil

Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital

No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any):

Blood Products (specify level, serial nos. and no. of bags used):

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural):

Instrument/Set used (specify, include quantity):

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MINOR CIRCULATING CASE RECORD 4

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural): _____

Instrument/Set used (specify, include quantity): _____

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage:n _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature

MINOR CIRCULATING CASE RECORD 5

Name of Patient: _____ Sex: _____ Civil Status: _____

Address: _____

Date and Time of Admission: _____ Case/Hospital No: _____

Preoperative Diagnosis: _____

Date and Time Received at O.R. Lobby: _____

Status of Patient (Level of Consciousness) _____

Preoperative V/S T = _____ PR = _____ RR = _____ BP = _____

IVF's (include level and no. of lines, specify if any): _____

Blood Products (specify level, serial nos. and no. of bags used): _____

Proposed Operation: _____

Preop Meds Given (complete data): _____

Check (/) box then fill out required data (if applicable):

Removed: Nail polish Dentures Jewelries

Informed consent updated/valid? Yes No please refer to staff nurse ASAP

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of dainage: _____

Time of Transport to OR Theater: _____

Time of Transfer to OR Table: _____

Circulating Staff Nurse(s): _____

Circulating Student Nurse(s): _____

Scrub Student Nurse(s): _____

Anesthesiologist(s): _____

Surgeon(s): _____

Type of Anesthesia _____ Time of Anesthesia: _____

Induction Time _____

Anesthetics given (include amount: specify site if spinal /epidural):

Instrument/Set used (specify, include quantity):

Washings: _____

Operation(s) Performed: _____

Time Ended: _____ Status of Pt. Post op (level of consciousness): _____

Postoperative T = _____ PR = _____ RR = _____ BP = _____

Post op Diagnosis: _____

Check (/) box then fill out required data (if applicable):

Foley bag catheter Amount of urine drainage: _____

Nasogastric tube Color and amount of drainage: _____

NPO Status Specify actual no. of hours: _____

Chest tube Color and amount of drainage: _____

Colostomy bag Color and amount of drainage: _____

JP drain Color and amount of drainage: _____

IVF's endorsed (specify level and no. of lines / site if applicable):

Blood Products (specify level, serial nos. and no. of bags used):

Doctor's Order (Post op)

Time of Transfer to Recovery Room/Post Anesthesia Care Unit: _____

RR Staff Nurse on Duty: _____

RR Student Nurse assigned to Patient: _____

Circulating Student Nurse's Name/Signature Clinical Instructor's Name/Signature



Cebu Normal University
College of Nursing
Osmeña Boulevard Cebu City 6000
254 – 4837 / cnucollegeofnursing@live.com.ph
Level III RE-ACCREDITED STATUS, AACUP



Surgical Scrub in Vicente Sotto Memorial Medical Center

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
 Please specify Highest Nursing Degree Earned: _____



Cebu Normal University
College of Nursing
Osmenia Boulevard Cebu City 6000
254 – 4837 / cnucollegeofnursing@live.com.ph
Level III RE-ACCREDITED STATUS, AACUP



Surgical Scrub in Cebu City Medical Center

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
 Please specify Highest Nursing Degree Earned: _____



Cebu Normal University
College of Nursing
Osmeña Boulevard Cebu City 6000
254 – 4837 / cnucollegeofnursing@live.com.ph
Level III RE-ACCREDITED STATUS, AACUP



Surgical Scrub in St. Anthony Mother and Child Hospital

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____
(Print Name and Signature)

Approved by: _____
(Print Name and Signature)

Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____

Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____

Please specify Highest Nursing Degree Earned: _____

Please specify Highest Nursing Degree Earned: _____



Cebu Normal University
College of Nursing
Osmenia Boulevard Cebu City 6000
254 – 4837 / cnucollegeofnursing@live.com.ph
Level III RE-ACCREDITED STATUS, AACUP



Surgical Scrub in Cebu Puericulture Center and Maternity House Incorporated

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____
(Print Name and Signature)

Approved by: _____
(Print Name and Signature)

Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____

Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____

Please specify Highest Nursing Degree Earned: _____

Please specify Highest Nursing Degree Earned: _____



Cebu Normal University
 College of Nursing
 Osmeña Boulevard Cebu City 6000
 254 – 4837 / cnucollegeofnursing@live.com.ph
 Level III RE-ACCREDITED STATUS, AACUP



Surgical Scrub in Vicente Sotto Memorial Medical Center

Prepared by:
 Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
 Please specify Highest Nursing Degree Earned: _____



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Level III RE-ACCREDITED STATUS, AACUP



Surgical Scrub in Cebu City Medical Center

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
 Please specify Highest Nursing Degree Earned: _____



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Surgical Scrub in St. Anthony Mother and Child Hospital

Prepared by:
 Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
 Please specify Highest Nursing Degree Earned: _____



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Surgical Scrub in Cebu Puericulture Center and Maternity House Incorporated

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____
(Print Name and Signature)

Approved by: _____
(Print Name and Signature)

Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____

Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____

Please specify Highest Nursing Degree Earned: _____

Please specify Highest Nursing Degree Earned: _____



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Circulating Case in Vicente Sotto Memorial Medical Center

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
 Please specify Highest Nursing Degree Earned: _____



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Circulating Case in Cebu City Medical Center

Prepared by:
 Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____ Approved by: _____
 (Print Name and Signature) (Print Name and Signature)
 Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____
 Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____
 Please specify Highest Nursing Degree Earned: _____
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Circulating Case in St. Anthony Mother and Child Hospital

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____
(Print Name and Signature)

Approved by: _____
(Print Name and Signature)

Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____

Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____

Please specify Highest Nursing Degree Earned: _____

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Circulating Case in Cebu Puericulture Center and Maternity House Incorporated

Prepared by:
Printed Name with Signature of Student _____

Date Performed and Time Started	Patient's Initials (only)	Surgical Procedure Performed	O.R. Nurse on Duty (Name and Signature)	Supervised by Clinical Instructor Name and Signature
	Case Number			

Noted by: _____
(Print Name and Signature)

Approved by: _____
(Print Name and Signature)

Clinical Coordinator, PRC I.D. No. _____ Valid Until _____ Dean, PRC I.D. No. _____ Valid Until _____

Date Document is signed: _____ Time _____ Date Document is signed: _____ Time _____

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Glossary

Asepsis - the state of being free of pathogenic microorganisms.

Anesthesia - medicine administered for the relief of pain and sensation during surgery.

Biopsy - a diagnostic test involving the removal of tissue or cells for examination under a microscope.

Craniectomy - excision of a part of a skull

Craniotomy - surgical opening of the skull to gain access to the structures.

Disinfectant - any chemical agent used chiefly on inanimate objects to destroy or inhibit the growth of harmful organisms.

Durable power of attorney - a legal document denoting a friend or family member as your legal guardian in case you are unable to make medical decisions for yourself.

Electrosurgery - surgery which uses electrical instruments

Endarterectomy - the surgical removal of plaque or blood clots in an artery.

Free skin graft - the detaching of healthy skin from one part of the body to repair areas of lost or damaged skin in another part of the body.

Gastrectomy - complete or partial removal of the stomach

General Anesthesia - an anesthetic which causes the patient to become unconscious during surgery

Hemorrhage - the medical term for bleeding

Hysteroscopy - a visual inspection of the cervical canal and uterine cavity with an endoscope.

Inguinal Hernias - protrusions of part of the intestine into the muscles of the groin.

Informed consent form - a form signed by the patient prior to surgery which explains everything involved in the surgery, including its risks

Laminectomy - surgical procedure which includes removal of a portion of the lamina, to provide more room in the vertebral canal; usually for disc herniation of spinal canal stenosis.

Living will - a legal document which states your medical preferences for treatment and resuscitation in the event you can no longer speak for yourself.

Magnetic Resonance Imaging (MRI) – a diagnostic procedure that uses a combination of large magnets, radiofrequencies, and a computer to produce detailed images of organs and structures within the body.

Minimally invasive surgery – any technique involved in surgery that does not require a large incision.

Needle aspiration (of the breast) – uses a thin needle and syringe to collect tissue or drain a lump after using a local anesthetic.

Needle biopsy (of the breast) – a procedure to remove a small piece of breast tissue using a needle with a special cutting edge, after using a local anesthetic.

Open Surgery – cutting the skin and tissues during surgery to expose a full view of the structures and organ involved in the procedure.

Partial colectomy – the removal of part of the large intestine.

Post-anesthesia care unit – the area a patient is brought to after surgery to recover. Also called recovery room.

Radical mastectomy – surgical removal of the entire breast, the pectoral muscles, and the axillary lymph nodes.

Regional anesthetic – an anesthetic used to numb a portion of the body.

Shock – a dangerous reduction of blood flow throughout the body.

Simple mastectomy – surgical removal of the breast and possibly a few of the axillary lymph nodes close to the breast.

Thoracotomy – surgery to view the lung that may be used to confirm cancer, or for chest trauma to detect the source of bleeding.

Total hysterectomy with bilateral salphingo-oophorectomy – the entire uterus, fallopian tubes, and the ovaries are surgically removed.

Urinary retention – the inability to empty bladder.

Wedge resection of the lung – a small, localized section of the lung is removed often for a lung biopsy.

X-rays – a diagnostic test which uses invisible electromagnetic energy beams to produce images of internal tissues, bones and organs onto film.

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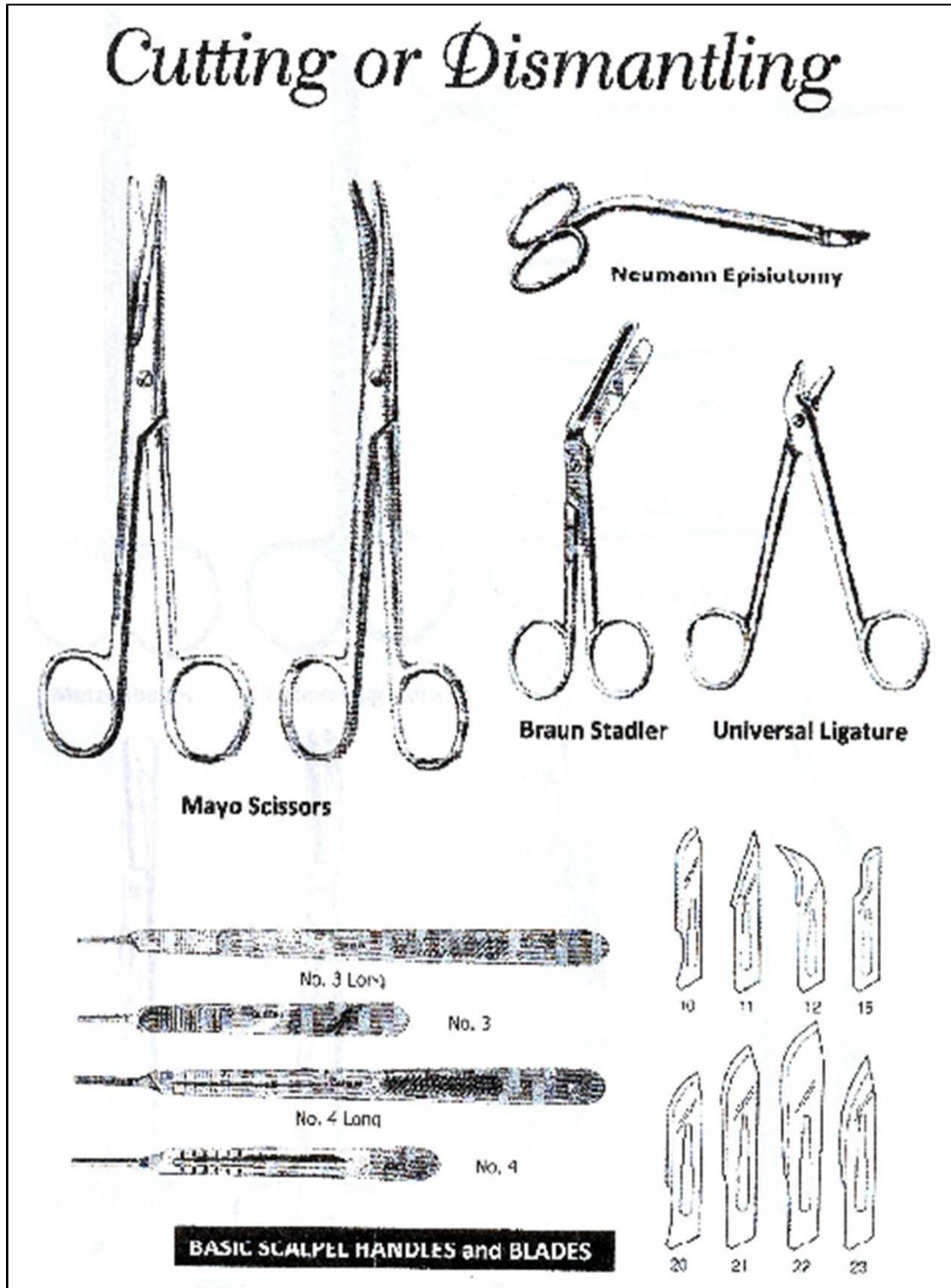
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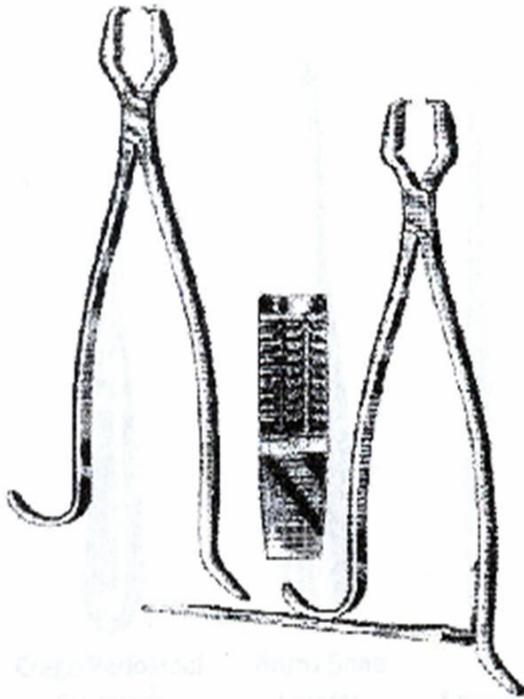
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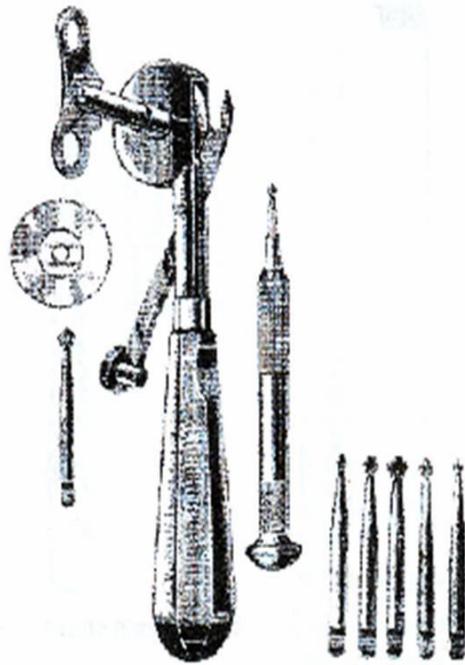
Appendices

Appendix A. Cutting or Dismantling Instruments

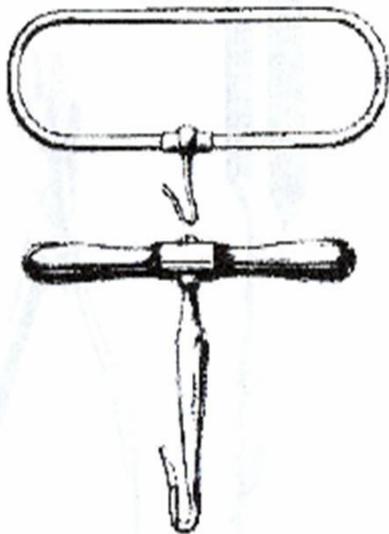




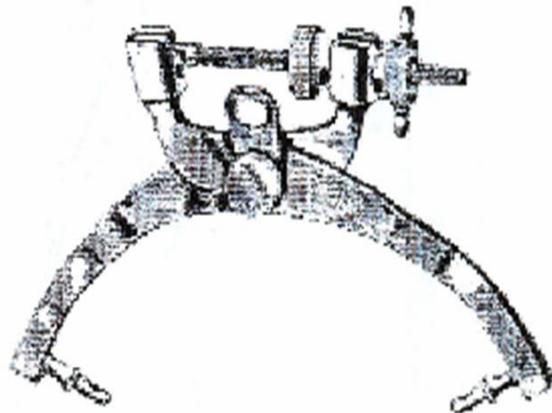
Lane Bone Holding Clamp Forcep



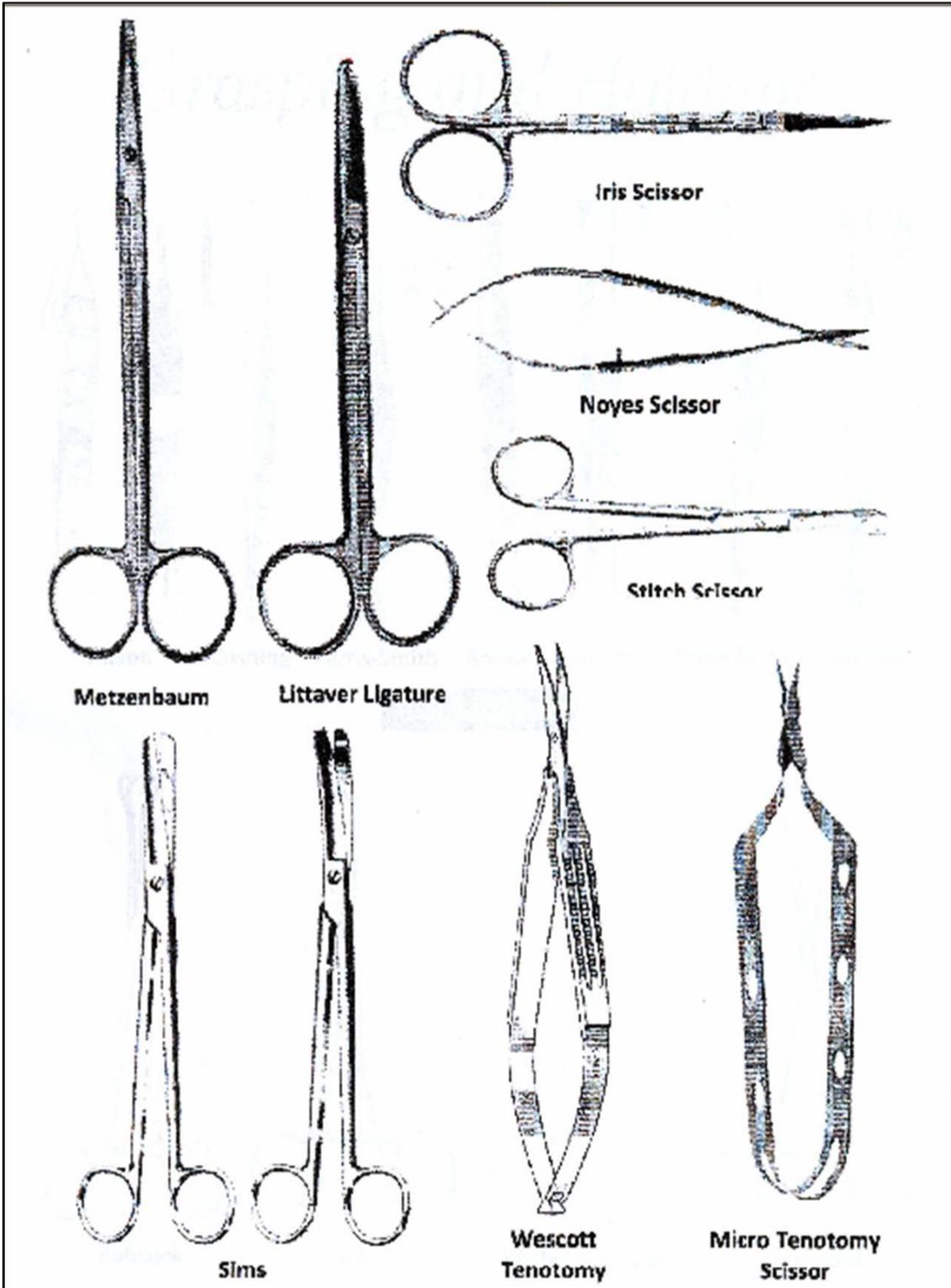
Hand Drill with Drill Bits



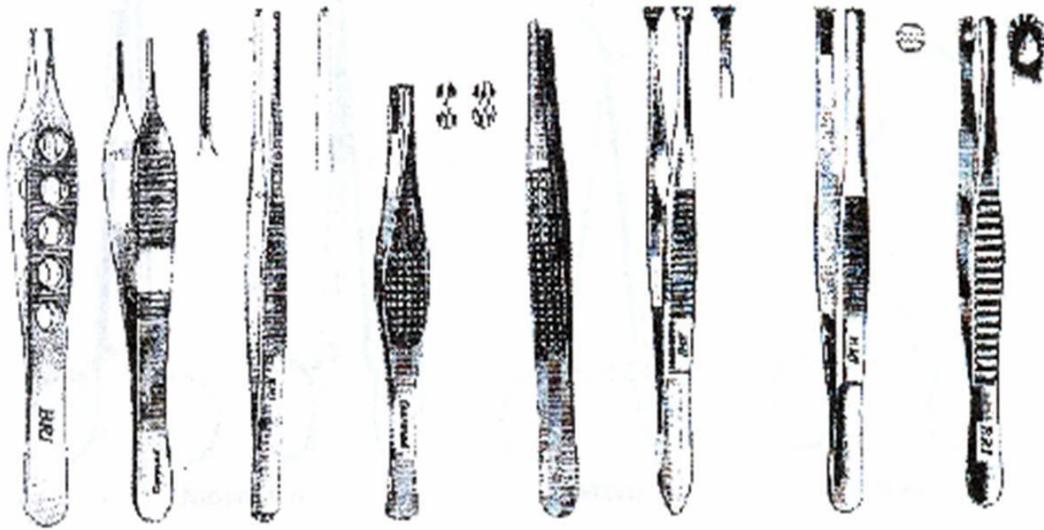
Gigli Saw



Traction Bow

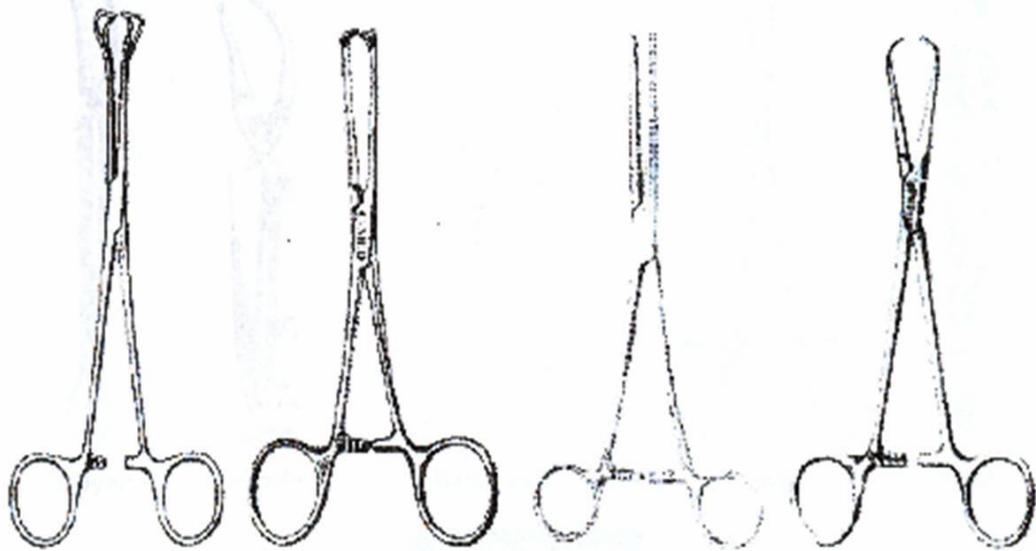


Grasping and Holding



Adson Cushing Ferris-Smith Bonney Graeffe Stille Pattern Russian

TISSUE FORCEPS



Babcock Allis Kocher-Ochsner Bernhard



Moynihan



Mayo



Helen



Doyen



Schadel



Backhaus



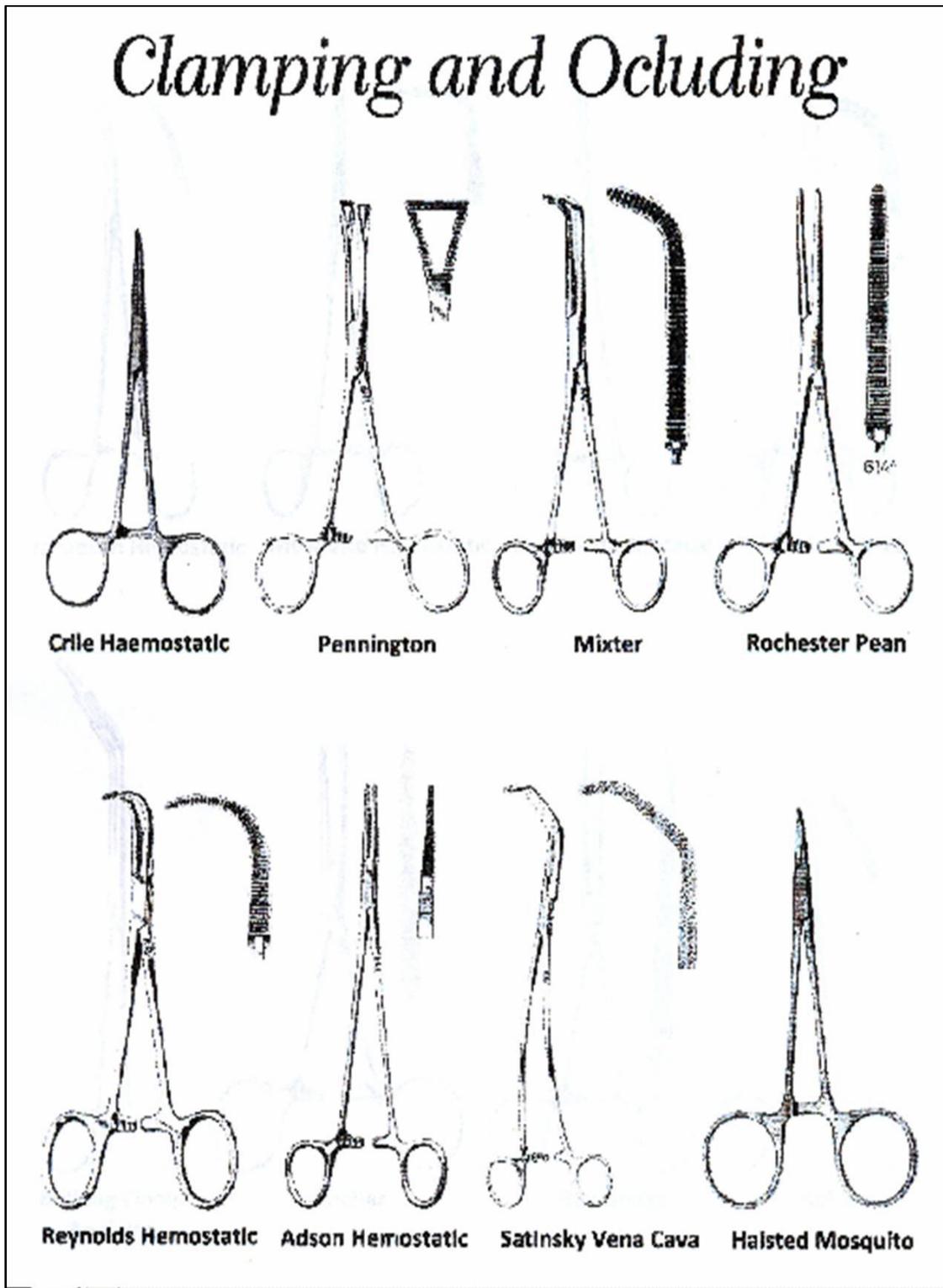
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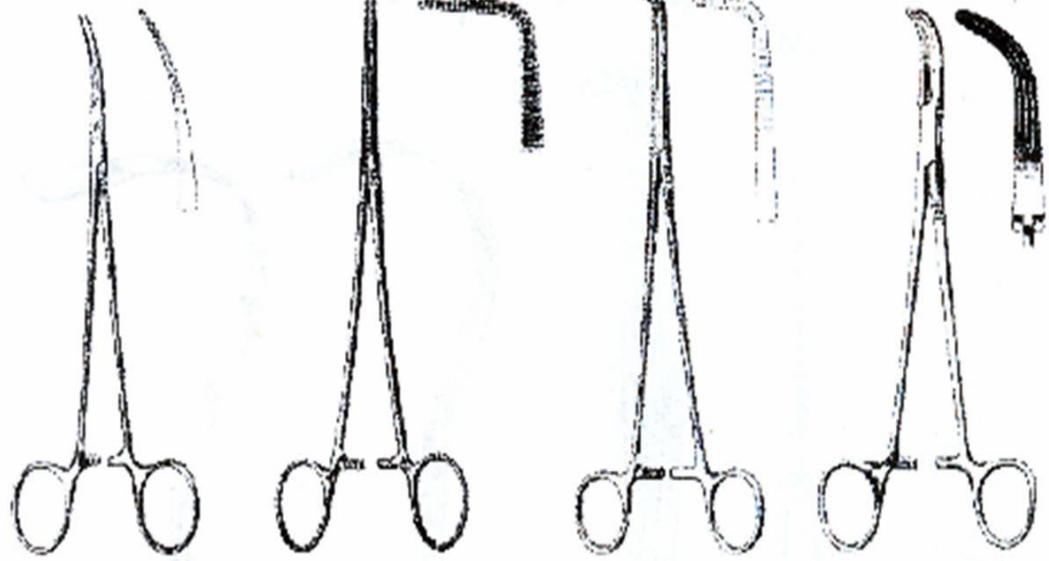


Jones

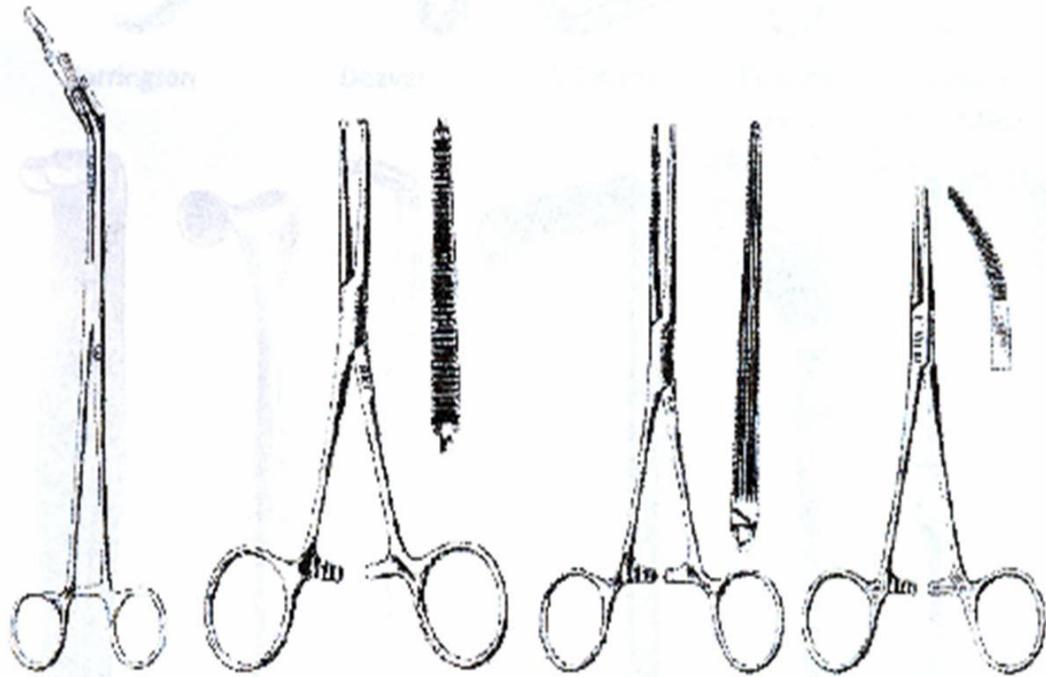
TOWEL CLAMPS

Appendix C. Clamping and Occluding Instruments





Jacobson Hemostatic Mosquito Hemostatic Kantrowitz Thoracic Lower Gall Duct



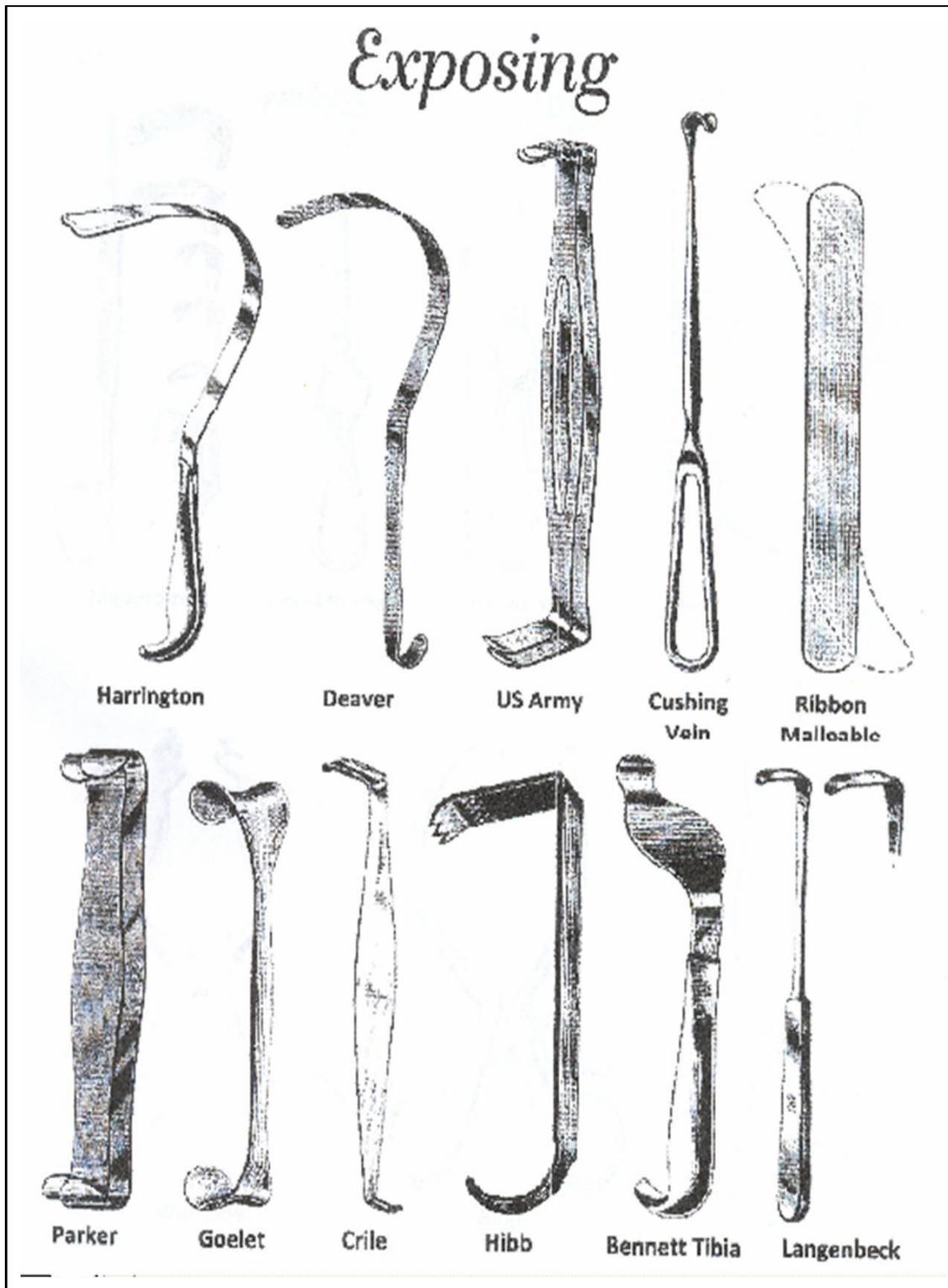
Bulldog Clamp Applying

Kocher

Bainbridge

Kelly

Appendix D. Exposing Instruments

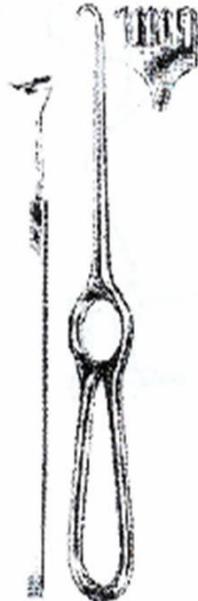




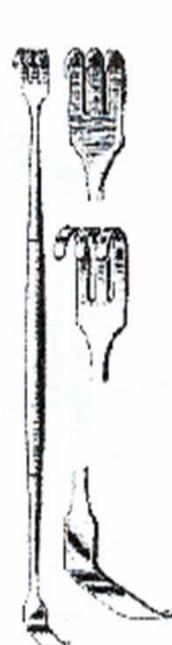
Meyering



Israel Prong



Volkman



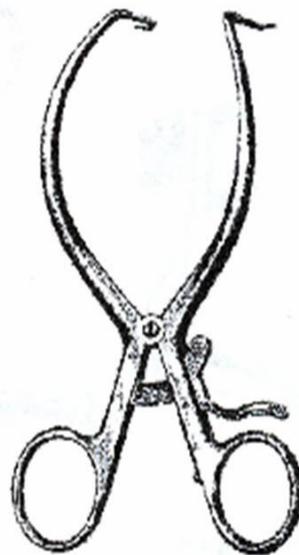
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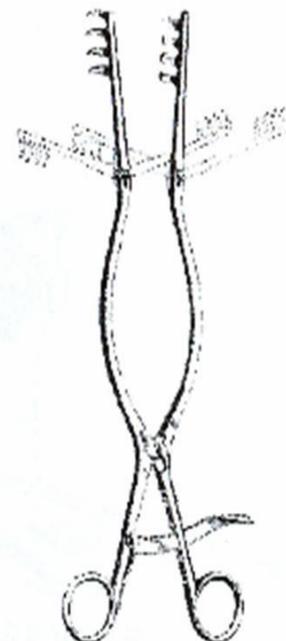
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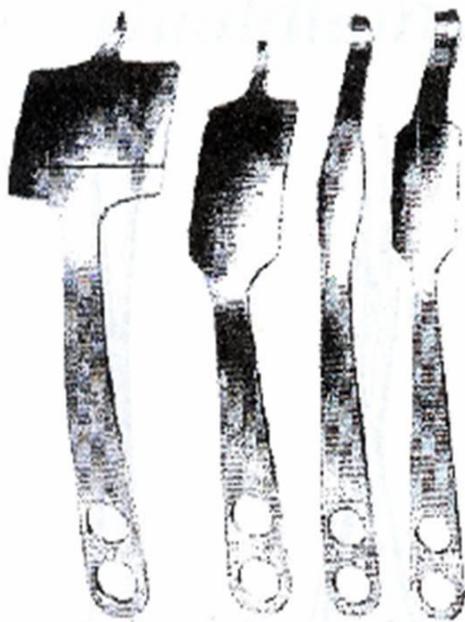
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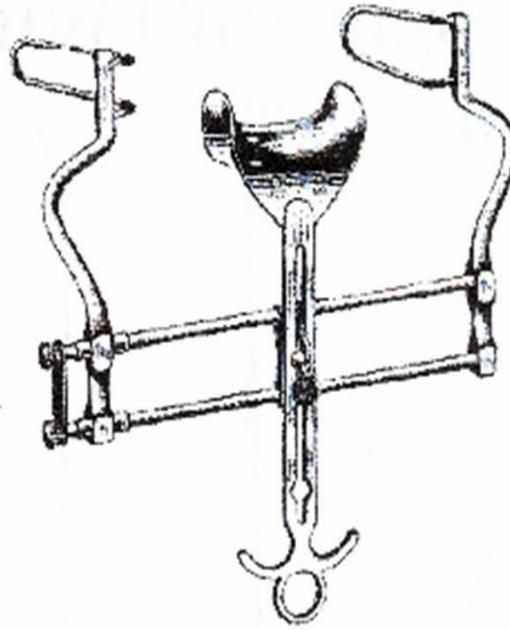
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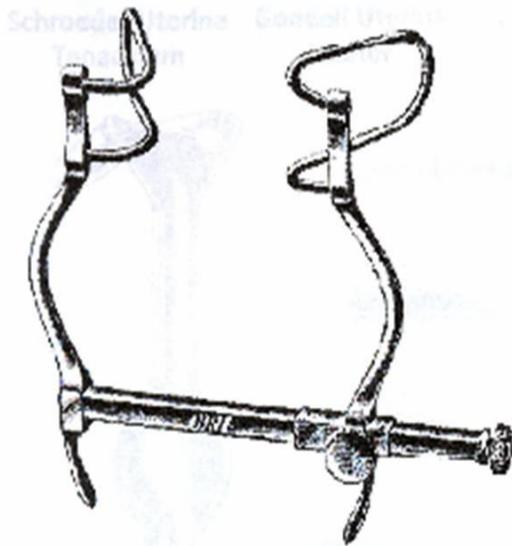
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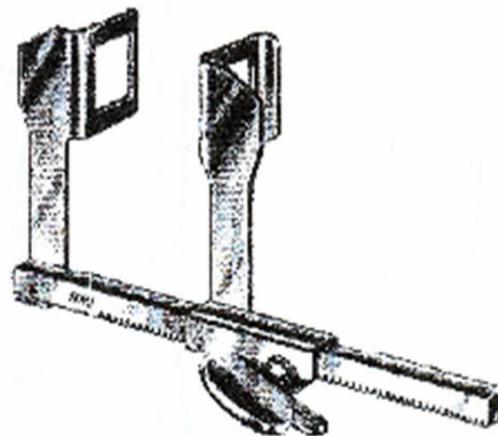
Hohmann



Balfour Abdominal

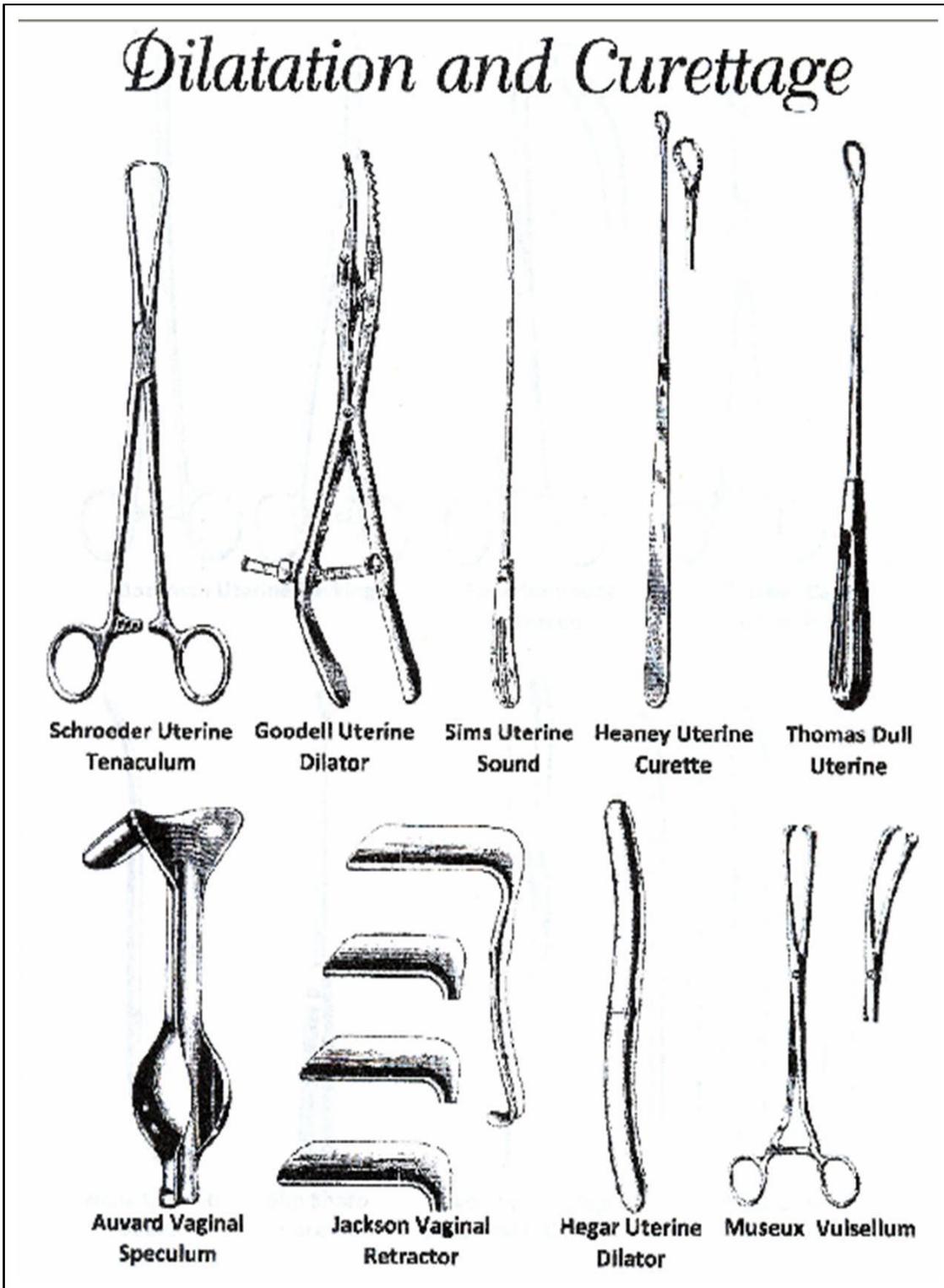


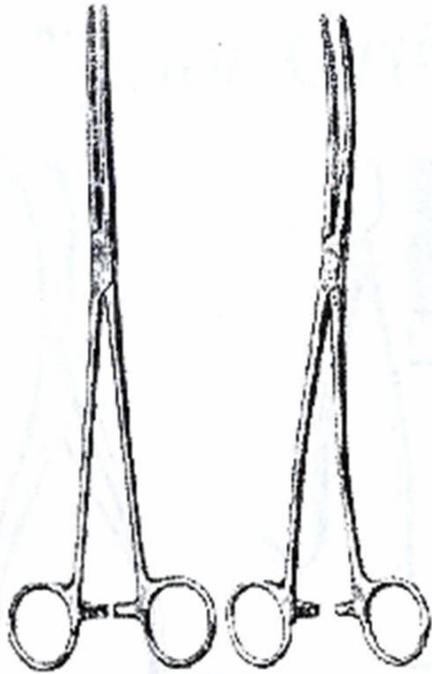
Gosset



Haight Baby Rib Spreader

Appendix E. Dilatation and Curettage Instruments

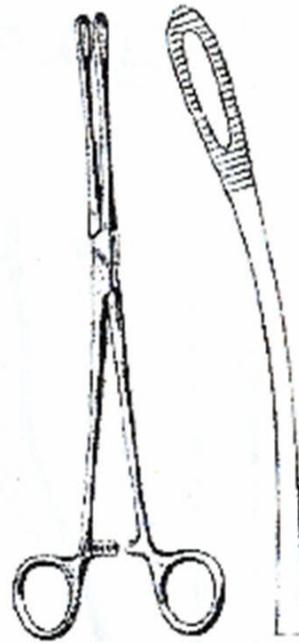




Bozeman Uterine Packing



Foerster Sponge Forcep



Fletcher Cervix Holding Forcep



Hank Uterine Dilator



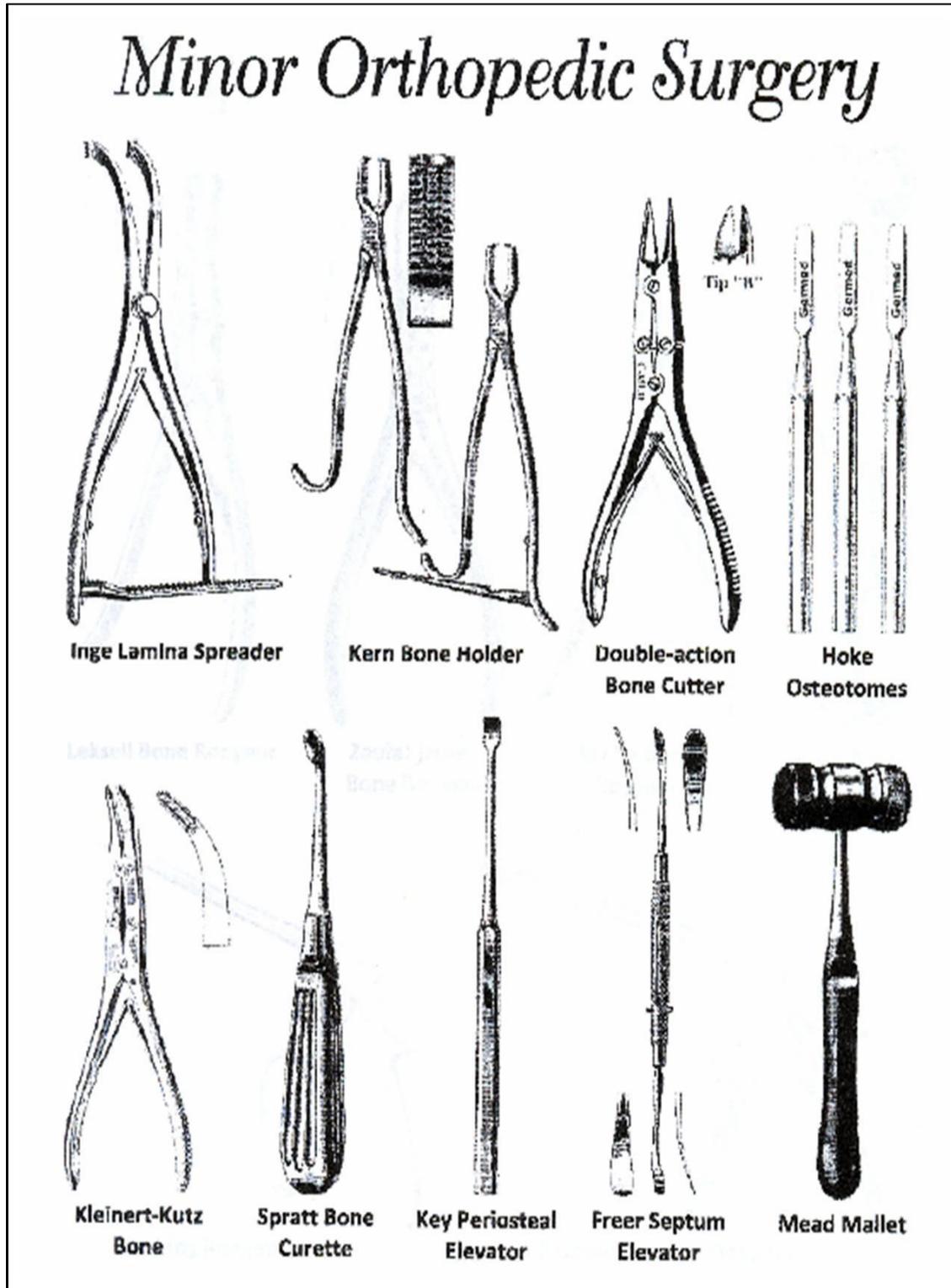
Sim Sharp Curette



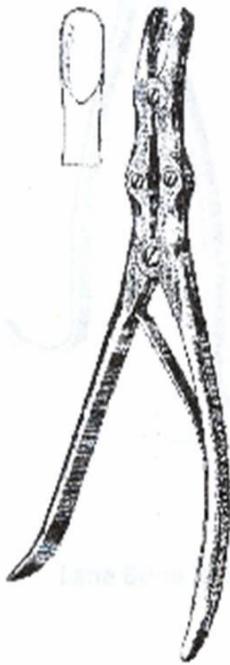
Kevorklan-Younger Endocervical Curette



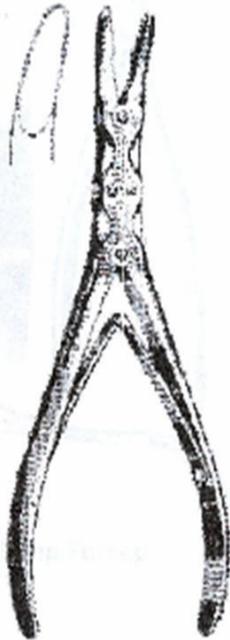
Pratt Uterine Dilators



Major Orthopedic Surgery



Leksell Bone Rongeur



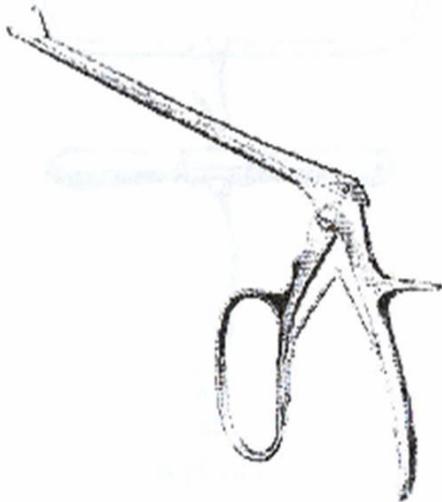
Zaufal-jansen Bone Rongeur



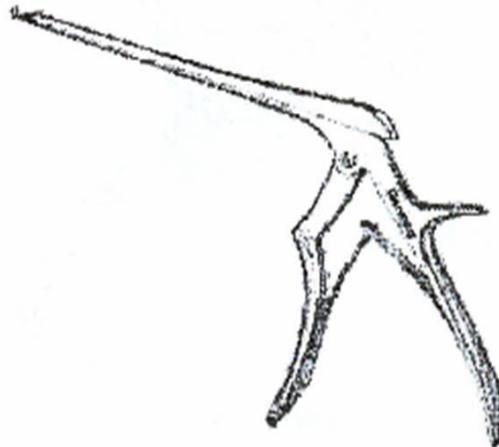
Echlin Bone Rongeur



Lowman Bone Holder

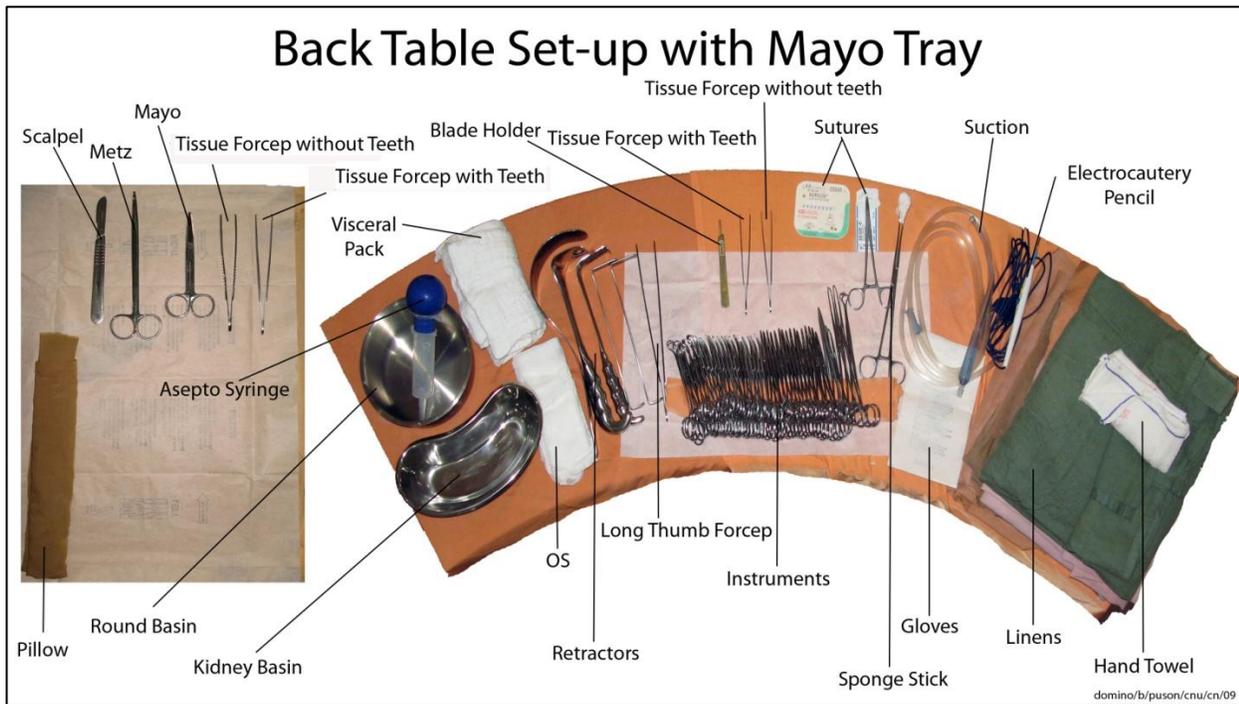


Cushing Rongeur

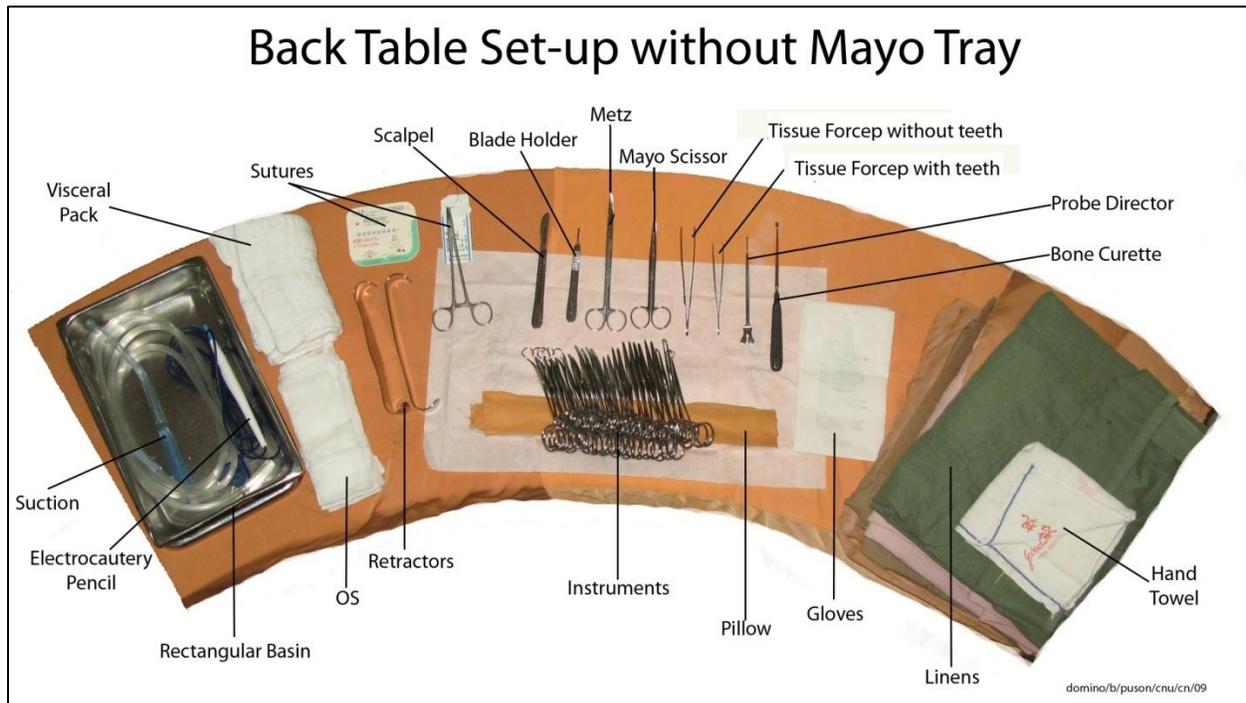
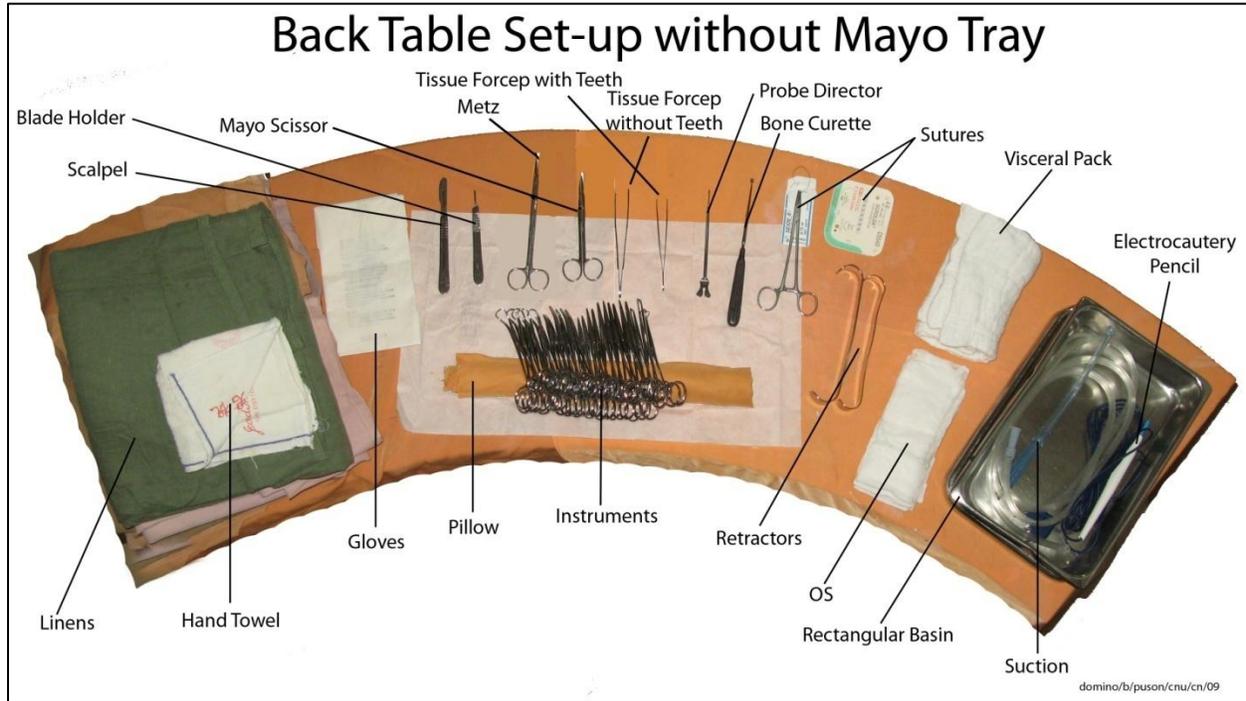


Kerrison Cervical Rongeurs

Appendix H. VSMCC Back table Set-up with Mayo Tray Arrangement



Appendix I. VSMMC Back table Set-up without Mayo Tray Arrangement



Centennial Edition



*From Good to Great
CNU Tells Her story*