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TO: The Director of Medical Education/Clinical Science Program Coordinator/Preceptor

Thank you for taking the time to review the Clinical Science handbook.

Saint James School of Medicine was chartered by the Federal Government of the Netherlands Antilles in January 2000. The medical school provides a comprehensive basic science and clinical medicine program leading to the degree of Doctor of Medicine (M.D.). Saint James was developed through the combined efforts of the Dutch Government of the Netherlands Antilles and medical educators from the United States and Europe. Saint James is currently affiliated with several hospitals in the United States and Canada and we continue to work to expand our network of ACGME accredited hospitals where our students can complete their clinical rotations.

This handbook will acquaint you with the Clinical Science program of the Saint James School of Medicine. A special section for Clinical Science faculty/ preceptors has been added that will give you an overview of the general responsibilities of a preceptor and the guidelines for student evaluation.

On behalf of the administration, faculty, and staff at Saint James, I extend our sincere appreciation for your willingness to provide this valuable experience for our medical students.

Dr. K. Guha
President/CEO
TO: The Clinical Science Student

Welcome to the Clinical Science Program of Saint James School of Medicine.

This is the start of perhaps the most exciting part of the MD program. Remember that you will gain from this experience as much as you put into it.

Please take the time to review the Clinical Science handbook thoroughly. This handbook will acquaint you with the Clinical Science program of Saint James School of Medicine. It provides general guidelines, pointers, survival tips and specific guidelines for the core clerkships.

Be sure also to read the section for the Clinical Science Faculty/Preceptors which will give you a clear idea on the evaluation criteria and the list of medical conditions that you should be familiar with by the end of that particular core rotation.

We wish you good luck in the program.

Jay K. Pandit, MD., FACS,
Dean of Clinical Affairs
THE CLINICAL SCIENCES

The Clinical Sciences consists of the fifth through the tenth semesters of medical education and includes students who have successfully completed the Basic Sciences. The clinical curriculum is designed to enable students to develop the basic competencies required of medical school graduates preparing to begin residency training in any clinical discipline. Through participation in six core disciplines of medical practice and through exposure to basic skills of medical/surgical specialties, students will practice the skills, attitudes, and behaviors unique to each discipline and common to the practice of medicine in general. As their skills become more refined, students take on increased clinical responsibility as sub-interns and have the opportunity to explore particular fields of interest in a variety of settings through elective clerkships.

At the conclusion of training, students will have a clinical knowledge base appropriate for first-year residents, will be well prepared to provide care to patients in both ambulatory and hospital settings, will be skilled in knowledge acquisition tools required for lifelong learning, and will deal professionally with the ethical, legal, and economic realities of 21st century medicine and health care delivery systems.

General Objectives

- To provide students with a broad overview of medical practice in order to understand the interrelationship among different levels of practice, various areas of specialization,
- Give students the opportunity to assess areas of medical practice in which they might wish to take up graduate education.
- To prepare students to function effectively and gain the most from graduate medical education.

Learning Objectives

The learning objectives are specific for each of the rotations however some common characteristics include:

- To be able to perform the basic procedures and demonstrate the basic skills noted for each specialty; and will understand how that specialty functions along with the other specialties to the benefit of the patient.
- A competent student will be able to perform the basic procedures and demonstrate the basic skills noted for each specialty; and will understand how that specialty functions along with the other specialties to the benefit of the patient.
- To understand and be able to apply the pathophysiology relevant to the problems of the patient and to be able to discuss these principles and details for all the common patient problems and diagnoses noted in the syllabus.

Learning objectives in terms of the Graduation Competencies include:

- Patient Care: Gather data from all pertinent sources through focused history and thorough physical examination; order diagnostic tests; interpret the data; research clinical questions; explain the pathophysiology and prevention strategies; make decisions; perform procedures; manage patient therapies; work collaboratively with other health professionals to optimize the quality of care rendered, reduce medical error, and increase patient safety, and to provide patient-focused care.

- Medical Knowledge: Demonstrate mastery of the relevant basic, clinical, and cognate sciences necessary to manage the common and key patient medical and health problems. Be able to utilize evidence based medicine as applied to individual patients and demonstrate the pathophysiological concepts involved.

- Practice-Based Learning & Improvement: Apply scientific evidence to patient care; critically appraise the scientific literature; utilize technology to support learning and patient care; analyze personal performance for professional development and improvement.

- Interpersonal & Communication Skills: Develop and sustain a therapeutic and ethically sound relationship with patients and their families; communicate effectively with patients and their families; work collaboratively with other members of the healthcare team.

- Professionalism: Demonstrate integrity and honesty in all activities; ensure that interactions are based on full disclosure and informed consent; act in the best interest of the patient; demonstrate respect and sensitivity to patients’ values and circumstances.

- Systems-Based Practice: Explain the principles of health care delivery and describe the organization, strengths and limits of various models of health care delivery systems; provide cost-effective care; advocate for quality patient care; define health in terms of the community in which the patient lives (population-based medicine).

The Clinical Rotations

The student participates in patient care while rotating through various medical specialties in affiliated hospitals. This system of rotational training is also known as the “clinical clerkship,” which is synonymous with clinical rotation. Training includes history taking, physical examination, laboratory analysis, case presentations, clinical workshops, and conferences. Students receive personalized guidance by the clinical faculty in order to ensure a meaningful educational experience. Students develop the skills and knowledge that are essential during their graduate medical education or residency years.

The 6 semesters or 96 weeks of clinical clerkships and rotations are divided into three components:

- 16 weeks of the transitional program called Advanced Introduction to Clinical Medicine (AICM) which is considered as part of the elective rotation
- 48 weeks of core clerkships in teaching hospitals
- 32 weeks of elective rotations in subspecialties of medicine and surgery.

The AICM and core clerkships are mandatory for all medical students.

The clinical experiences (clerkships) take place in affiliated hospitals throughout the United States. The first semester Advanced Introduction to Clinical Medicine (AICM) is provided in collaboration with one of our affiliated hospitals. This program serves as the final component of the basic to clinical science “bridge” or transitional component of the curriculum. This assists in preparing them for both USMLE Step 1 and for the clinical clerkships that will follow.
Students must pass Step 1 at the conclusion of the AICM and prior to beginning the remaining 80 weeks of core and elective clinical rotations. The 48 weeks of “core” (required) clerkships are as follows:

**Core Rotations Duration**

<table>
<thead>
<tr>
<th>Clerkship</th>
<th>Duration</th>
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<tbody>
<tr>
<td>Medicine</td>
<td>12 weeks</td>
</tr>
<tr>
<td>Surgery</td>
<td>12 weeks</td>
</tr>
<tr>
<td>OB-GYN</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Pediatrics</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>6 weeks</td>
</tr>
<tr>
<td>Family Practice</td>
<td>6 weeks</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>48 weeks</strong></td>
</tr>
</tbody>
</table>

The remainder of the clinical experiences consists of elective rotations in the various specialties and sub-specialties of medicine. A partial list of possible elective rotations is provided below.

**Elective Rotations**

- Allergy and Immunology
- Neurology
- Cardiology
- Occupational Medicine
- Critical Care Medicine
- Oncology
- Dermatology
- Ophthalmology
- Emergency Medicine
- Orthopedics
- Endocrinology
- Psychiatry
- Family Practice
- Pulmonology
- Gastroenterology
- Radiology
- Rehabilitation Medicine
- Hematology
- Rheumatology
- Infectious Diseases
- Nephrology
- Urology
- Surgical subspecialties

The detailed outline of the individual clerkships is found later on in this handbook.

In general the format of a clinical experience or rotation is as follows:

Each student is assigned to physicians in the various affiliated teaching hospitals. These preceptors provide lectures, make rounds with the students, assign patients for the students to “work-up,” and discuss the patients and their clinical and health problems with the students. The clinical experience has the student observing interactions with patients combined with independent activities. The students are expected to learn about the patients’ problems, the pathophysiology of those problems, and the management. This is all presented to the preceptors and used as the basis for the discussions and learning activities. The preceptors have the students shadow them at the beginning of the rotation which helps to determine the student’s level of knowledge. Over time, the students will be able to meet the learning objectives noted in this handbook.

The preceptor will form a judgment regarding the student's strengths and weaknesses. The preceptor is required to observe and give feedback on the areas which will form the student's evaluation scores: Knowledge level, Diagnosis, Therapeutics, Patient Interaction, Data Collection, Chart work, Treatment, Rapport, Responsibility and Interest. These evaluations are combined with the rotation examination scores to determine the student's grades.

**Student Assessment**

Student assessment during the clinical years includes multiple dimensions. Each of the core disciplines has defined the clinical knowledge, skills, attitudes, and behaviors students must demonstrate to achieve proficiency. The kinds of patients or clinical conditions, and the clinical settings, as well as the levels of student responsibility needed to meet the learning objectives for each of clerkship have also been defined. Underlying the criteria unique to each discipline is the requirement that students maintain a consistent level of professionalism. Using this criterion, students are evaluated by the preceptors, attending physicians, and residents who have worked most closely with them during the clinical experience for the clinical grade. In addition to their clinical grade, students must also demonstrate acquisition of discipline-specific knowledge bases by taking and passing end of clerkship examinations in each of the core disciplines. In clinical experiences faculty may use an objective evaluation of the student's knowledge as well as a subjective evaluation. At the conclusion of each experience, students are asked to evaluate the quality of the experience. These evaluations are used by the appropriate curriculum committees as part of the ongoing efforts to monitor and improve the clinical curriculum.

At the present time the students are assessed in the various clinical experiences through the use of a student evaluation form completed by the responsible supervising faculty member. An institutional diagnostic examination is given at the end of each rotation and accounts for 25% of their grade. The students can also participate in research activities and must also submit a thesis paper when all of their clinical rotations have been completed.

The students’ progress is dealt with through the Clinical Committee which is responsible for reviewing student performance, dealing with students at risk, and making recommendations regarding student progress. The Clinical Committee reviews all student performance and makes recommendations regarding student progress and promotion. It also may make specific recommendations relating to finding methods for improving a student's performance. The grades and other recommendations are forwarded to the Dean’s Office and the president for final actions.
GENERAL GUIDELINES FOR THE CLINICAL SCIENCE PROGRAM

The student is required to provide all of the following documentation at least 4 weeks prior to the start of the AICM/Clinical Rotations:

1. A brief resume (no more than a page long) - This will serve as a brief introduction of yourself to the hospital administration and preceptors

2. USMLE Step 1 Score Report*

3. Completed Application for Liability Insurance

4. Certificate of Immunization with physical: Completed by a licensed physician

5. Proof of Personal Health Insurance Coverage: Not provided by the school

6. Emergency contact details

7. Signed student clinical contract.

8. Proof of CPR certification Level C

*to be submitted after completion of AICM.

Before the student begins the clerkship program, if possible, they should meet with the Clinical Coordinator or contact him/her by phone. This will enable the student to address any questions or concerns that the student might have.

Policy on USMLE

On completion of AICM all students are required to pass the USMLE Step 1 before they can continue clinical rotations at Saint James School of Medicine, regardless of which country they intend to practice medicine. The examination serves to establish a minimum academic standard that the student must meet before they can progress to the clinical clerkships.

Students are certified for each step of the USMLE a maximum of four times. Before being certified for the exam, the student must demonstrate that adequate measures have been taken to ensure a passing score. Please consult the school website for the most updated USMLE certification policy. Upon failure to pass the exam on the fourth certification, students are no longer allowed to continue clinical rotations by students, their family or friends is strictly prohibited. SJSM reserves the right to rescind any rotation that is not initiated through the SJSM Dean of Clinical Affairs and the Clinical Coordinator.

Clinical rotations are competitive and limited. Priority is based on seniority and/or performance in prior rotations. Some hospitals and preceptors request an interview with the student before starting the rotation. In such cases, the student will be notified in advance.

Rotations are largely dependent on scheduling and availability. SJSM will do its best to place students in clinical rotations and hospitals taking into consideration their geographic, career and academic preferences, plus lodging, family considerations and other personal needs. Students are required to work with the clinical administration in this regard as much as possible.

Each rotation must be done to its completion in order to be credited. There is no rigidly established schedule or sequence of clinical medicine rotations. Students may not do, nor will SJSM accept multiple concurrent rotations. No elective rotation may be scheduled for less than four weeks.

The Director of (Undergraduate) Medical Education or the SJSM Faculty/Coordinator at the assigned hospital will provide each student with a schedule of projected rotations for reasonable periods. Changes in this schedule can only be made with joint approval of the hospital’s medical education department and the office of the Dean of Clinical Affairs/Clinical Coordinator at SJSM. Except under unusual circumstances, a student may not drop any rotation within a two-week period prior to the first day of the rotation.

Students who wish to establish a clerkship/rotation on their own must do so in collaboration with the office of the Dean of Clinical Affairs. In such cases, an agreement between SJSM and the affiliate hospital and/or the preceptor must be completed before the student begins a clinical rotation. Additional documentation required is as follows:

Graduation Requirements

In order to graduate from Saint James School of Medicine, a student must meet the following requirements:

1. Successful completion of AICM, and all core and elective rotations

2. Pass USMLE Step 1

3. Pass USMLE Step 2 CS and CK (students graduating after Jul 1, 2013)

4. Clear all financial obligations for tuition and other charges

5. Be in good academic standing

6. Have all required paperwork including test scores, immunization records and evaluations on file

7. Have submitted thesis paper (for students completing Basic Science in or after Dec 2008, please see page 65 of Clinical Handbook for details)

Please note that failure to fulfill any of the above requirements will deem the student ineligible for graduation. In order to apply for graduation the student must complete and send in the "Application for Graduation" form that is available in the Downloads section of the school website. On approval of the application for graduation, the MD degree will be awarded to the student.

Note to students:

All clinical rotations must be officially initiated through the Office of the SJSM Dean of Clinical Affairs and the Clinical Coordinator. Contacting hospital administrators, physicians, or others independently, regarding the scheduling, authorization, or approval of clinical rotations by students, their family or friends is strictly prohibited. SJSM reserves the right to rescind any rotation that is not initiated through the SJSM Dean of Clinical Affairs and the Clinical Coordinator.

General Guidelines

- Clinical rotations are a full-time commitment. Students are advised to refrain from assuming work obligations that divert time, attention, and energy from the fulltime task of training in medicine.

- Clinical rotations are competitive and limited. Priority is based on seniority and/or performance in prior rotations. Some hospitals and preceptors request an interview with the student before starting the rotation. In such cases, the student will be notified in advance.

- Rotations are largely dependent on scheduling and availability. SJSM will do its best to place students in clinical rotations and hospitals taking into consideration their geographic, career and academic preferences, plus lodging, family considerations and other personal needs. Students are required to work with the clinical administration in this regard as much as possible.

- Each rotation must be done to its completion in order to be credited. There is no rigidly established schedule or sequence of clinical medicine rotations. Students may not do, nor will SJSM accept multiple concurrent rotations. No elective rotation may be scheduled for less than four weeks.

- The Director of (Undergraduate) Medical Education or the SJSM Faculty/Coordinator at the assigned hospital will provide each student with a schedule of projected rotations for reasonable periods. Changes in this schedule can only be made with joint approval of the hospital’s medical education department and the office of the Dean of Clinical Affairs/Clinical Coordinator at SJSM. Except under unusual circumstances, a student may not drop any rotation within a two-week period prior to the first day of the rotation.

- Students who wish to establish a clerkship/rotation on their own must do so in collaboration with the office of the Dean of Clinical Affairs. In such cases, an agreement between SJSM and the affiliate hospital and/or the preceptor must be completed before the student begins a clinical rotation. Additional documentation required is as follows:
a. Description of the intended rotation(s): dates and duties
b. A list of clinical faculty/preceptors, including a curriculum vitae of the preceptors(s) wherever possible
c. A letter of agreement from the program supervisor outlining the honorarium, if any, and the mode of payment.

## Conduct

From the day of enrollment in medical school, students are considered to be junior colleagues in the medical fraternity. They are an integral part of the treatment team and must exhibit conduct consistent with the ideals of the profession. Students are expected to uphold the standards of SJSM. These standards are outlined in the Student Handbook and other written policy statements provided to them at the time of matriculation or after they are enrolled. The student's personal life will be in harmony with conduct expected by the school.

## Weekend Assignments

Becoming a physician includes learning to accept responsibility for one's patients 24 hours-a-day, seven days-a-week, 365 days-a-year, except when alternatives for coverage have been arranged. There are no formal educational activities on weekends but students may be required to participate in patient care activities on weekends as part of the medical team. Weekend assignments usually do not exceed three consecutive weekends.

## Standards for Appearance and Apparel

Students of SJSM are expected to maintain at all times an appearance that is consistent with the highest professional standards and that projects to the public an image of cleanliness, competence, and professionalism.

Good taste indicates that haircuts, hairstyles, and personal grooming be neat and conservative rather than ostentatious. Grooming and style should also be practical so as to enable ones duties to be performed without embarrassment, inconvenience, or threat to safety. Specifically:

1. Hair must be clean and neat avoiding radical styles.
2. Mustaches and beards, if worn, must be clean, neat, and trimmed.
3. Cosmetics and perfumes should be inconspicuous.
4. Most hospitals discourage the wearing of jewelry.
5. Fingernails should be maintained in a professional manner, be closely trimmed, and should not interfere with patient care or professional duties.

For clinical appointments, and whenever students are in the clinical sites, clean, white coats with approved name tags and school logo are to be worn at all times. Acceptable attire is usually business casual. Shoes are considered standard apparel. Thongs or sandals are not appropriate in any clinical facility. Some clinical sites may have dress requirements that are more specific than those listed here.

## Housing

Students are responsible for their own housing and transportation throughout the rotations program. In some states and cities, SJSM offers assistance and contact information for independent student housing coordinators. Students must keep SJSM's Office of the Dean of Clinical Affairs informed of their current residence and telephone numbers. In case of a change of address, phone number or email address, students must notify the SJSM Office within 24 hours. Please be advised that, with prior notice, students may be asked to relocate for a given rotation.

## Leave of Absence

Students are not encouraged to take a leave of absence from their studies. Preparation for the USMLE is best accomplished by completing the program in the allotted 16 months followed by the clinical rotations. Therefore, a leave of absence (LOA) from school may be granted only under extraordinary circumstances. The following guidelines must be followed when applying for a leave of absence.

During the Basic Sciences, the Dean of Basic Sciences must be consulted prior to applying for an LOA. During the Clinical Sciences, the Registrar's Office should be contacted directly prior to applying for an LOA. A LOA may be granted for a maximum of one semester (16 weeks) at a time. The application for a LOA is available for download from the school website. Valid documentation supporting the need for a LOA must be submitted with the completed application, e.g. medical report, legal notice, legal documents, etc. The completed application for a LOA must be submitted to the Office of the Registrar at least 6 weeks prior to the start of the anticipated LOA. Failure to do so may result in denial of LOA. The refund policy of the school will apply if an LOA is taken after the start of the semester. Please refer to the refund policy that can be found on the school website in the Tuition section. If a LOA is approved, it is advisable for the student to inform their respective professors. The student must report back for classes by the date indicated on the LOA application. Only in extraordinary circumstances will a student be granted an extension of an LOA into the next semester. This is dealt with on a case by case basis. A new leave of absence application must be completed and supporting documentation must be submitted to the Registrar's office for approval when requesting an extension of a LOA. The final decision pertaining to an LOA request will be at the discretion of the Office of the Registrar.

## Evaluation Forms

Evaluation forms are to be filled out by the preceptor at the end of each rotation. It is the student's responsibility to ensure that the preceptor has an SJSM evaluation form. Additional evaluation forms can be provided to the preceptor by the SJSM's Office of Clinical Affairs, on request, by email or regular mail. The preceptor will fill out the evaluation form and send it to the Office of the Dean of Clinical Affairs. This document remains in the student's record.

## Affiliated Hospitals

Students will be placed at medical centers which provide services in major clinical departments and subspecialties, as much as possible. To achieve a broad-based experience in medical practice, students may also be assigned to rotations in community hospitals and specialty clinics.

## Residency

Applying for residency is a lengthy process that usually begins in July of the final year of medical school. Residency slots around the United States will be in harmony with conduct expected by the school.
States are typically filled through the National Residency Matching Program (NRMP) (www.nrmp.org). Residency applications are made through the Electronic Residency Application Services (ERAS) (www.aamc.org/students/eras). Among other documents, students are required to submit scores for the USMLE Steps 1 and 2, at least three recommendation letters from professors and/or preceptors, official transcripts from SJSM, and the Medical Students Performance Evaluation (MSPE) also provided by SJSM. The MSPE has replaced what used to be called the Dean’s letter. It differs from the Dean’s letter in that it is not a recommendation letter but a detailed evaluation of the student’s complete medical school career at Saint James.

**MEDICAL STUDENT PERFORMANCE EVALUATION (MSPE)**

Each 4th year medical student has an MSPE sent to the residency training programs to which he or she is applying. This MSPE summarizes the student’s academic performance, reflects extracurricular achievement, and provides the School’s recommendation for continued training.

Each student participates in the preparation of his or her MSPE and has an opportunity to help shape its content. Though intended to be a generally supportive document, the MSPE must provide a fair and accurate picture of the candidate as a potential house staff officer and the MSPE Committee (and ultimately the Dean) retains sole responsibility for its final content and recommendation.

Any written materials in the student’s permanent medical school file may be used in the MSPE. The Committee will make every effort to see that the information is used in the fairest and most positive manner possible. Any academic, physical, or personal problem that has resulted in an interruption or extension of the student’s progress through medical school will be noted in the letter. Any written commentary documenting academic, professional, or behavioral problems during medical school may be included in the letter. Students are advised to periodically review their own files to assume responsibility for knowing what the file contains and to initiate appeals in a timely manner when appropriate. More detailed information is available on the ERAS website (www.aamc.org/students/eras).

**Important:**

- Stay in contact with the Clinical Coordinator of SJSM.
- Check your email and voice mail messages daily or as often as possible.
- Inform us immediately of any changes in address, email or phone numbers.
- Certificate of Immunization (keep a copy for your files)
- Proof of personal medical health insurance
- A good attitude

**Books**

You should purchase the primary textbook for each rotation on your list. Your examination (if any) for each rotation comes from the textbook. Other books are optional. You might want to consider smaller reference books to have on selected rotations. For example, The Washington Manual is a standard for Internal Medicine. You will use it a lot. Talk to other students or residents about what smaller references they found helpful during a specific rotation.

**A Few Pointers**

1. Please ask your attending physician or preceptor about the hospital policies on medical students making entries in patient charts. **Do not write in patient charts unless specifically permitted to do so by your attending physician/preceptor.**

2. Arriving on time is mandatory. Arriving late is inexcusable. If you are going to be late or are sick, call the resident and preceptor that morning, if not the night before. Arriving early, staying late and volunteering will all earn you respect and extra points. Do not leave, until you have checked with your resident and preceptor. When you begin a rotation, clarify your duty and call hours. If you switch calls, it is your obligation to clear it with your resident or preceptor.

3. Wear comfortable shoes.

4. If the patient has a disorder, use your references and read up about it before you present the patient. If a lab is abnormal, try to figure out the meaning in relation to the disorder. **Always have a differential for clinical signs and symptoms.**

5. If you are given an assignment, do it immediately. Doing a thorough job or doing more than is expected earns you points. This goes for oral and written presentations, too.

6. Treat the staff well, from the head nurse to the janitorial staff. Be aware that nurses have their own space and do not intrude. Arrogant students and residents seem to have the roughest call nights.

7. An argument or power struggle with a preceptor or resident will have negative consequences. **You do not have to like or agree with people to learn from them.**

8. Never say you know something or can do something if it is not true. Preceptors know you are students and do not expect you to know everything. If a preceptor asks, “Did you do Mrs. Jones’ exam?” and you didn’t, say so! Do not lie, you will be found out.

9. Treat patients with courtesy and respect. Do not laugh or tell jokes at their expense, even if you hear others doing it. Be mindful at all times of patient confidentiality and hospital non-fraternization rules.

10. **Comments your preceptor makes on your evaluation will go into your MSPE, which goes with your residency application. Try and get a letter of recommendation prior to leaving a rotation if you did particularly well. Send copies of all letters of recommendation to the Office of the Dean of Clinical Affairs.**
HOW DO I GET THE MOST OUT OF MY CLINICAL CLERKSHIPS/ROTATIONS?

Patients are the main source of learning in the clinical program. It is from the patients you see that you will develop your clinical knowledge and skills. So, be assertive in searching out new learning experiences. You may be able to receive a passing grade by doing no more than is directly assigned to you, but you will be cheating yourself by not taking advantage of opportunities to further develop your clinical skills. Seize every opportunity to observe the signs and symptoms of any condition with which you have not had personal experience.

ASSIGNED PATIENTS

For assigned patients you will be expected to do a thorough physical examination, take and record a medical, personal, and family history, make a diagnosis based on all the available information including laboratory findings, and to follow the patient through to discharge from the hospital.

1. Keep in mind that a thorough knowledge of your patients is important. Learn about their family, social, occupational, and economic situations. Be aware of their emotional state since a patient’s emotional state will affect the rate and degree of recovery. Do not write in a patient’s chart unless you are granted permission by the attending physician/preceptor.

SELECTIVE STUDY

While you are in your clinical training, you will not have the same amount of time for reading that you had during the basic science program. To gain the most from your clinical medicine rotations, you will have to direct your energy selectively to the specific problems of patients you see, with particular emphasis on assigned patients. Through this approach you will learn to integrate basic science knowledge with experimental learning that comes from participating in the care of patients. Additional text book and journal readings will prepare you for discussing assigned patients with residents and other supervisors.

Following your review of pertinent literature, it is good practice to re-assess the accuracy and completeness of the patient’s history, examinations, and laboratory findings to determine whether information recorded needs to be supplemented or modified.

CASE REPORTS

A major purpose of requiring you to prepare a complete “case report” on assigned patient is to help you develop a thorough methodical approach to patient evaluation.

Helpful Hints on case reporting

1. Use only abbreviations that are generally accepted. Keep in mind that some commonly used abbreviations have multiple meanings (Mg=Magnesium, Myasthenia gravis etc.) Unless the context in which the abbreviation is used insures that it will be correctly interpreted, spell it out.

2. Write all entries legibly. If your written entries cannot be read by others, they are at best useless, and could even be dangerous.

3. Your case presentation will be based upon your case reports, which include a history, physical examination, laboratory findings, and differential diagnosis. These case presentations are to be as succinct as possible unless you are directed to do otherwise.

4. During your clinical medicine rotations you will relate to a variety of individuals with diverse roles, expectations, and degrees of authority. Because your own position as a medical clerk is not well defined within any hospital hierarchy, you will often define your own position. Please read the article Interpersonal Conflicts Involving Students in Clinical Medicine Education (Journal of Medical Education, Vol 60; No. 11, Nov. 1985) for more insight into situations which may arise during your rotations.

5. Confidentiality and tact are very important. When introducing yourself to a patient, you will find that most patients will accept your introduction as a medical student who is assisting the doctor by gathering some preliminary information. You should never talk about patients in public areas. Considerable harm can occur as a result of well meaning, casual comments made in such areas as elevators, cafeterias, and hallways. It may also be a violation of patient confidentiality rights under HIPAA regulations.
NOTES:
INTRODUCTION
The aim of family medicine is to provide personal, comprehensive, and continuing care for the individual in the context of the family and the community.

Students achieve the competencies in the field in family medicine primarily through clinical experience, both outpatient and inpatient. Although learning strategies depend upon the training institution, clinical experience is supplemented by directed readings, discussions with preceptors, completion of required written reports, and other learning tools. Students will be required to take call, attend conferences, and read suggested literature. Participation in research is also encouraged during this clerkship.

Therefore the main purpose of ambulatory rotation is to increase one's understanding of the different outpatient encounters in the ambulatory setting, to offer opportunities to the practice medicine in different patient settings and to introduce the principles of management of a patient in an ambulatory setting, including when the ambulatory patient needs hospital care.

A. While working in the ambulatory setting, students will encounter new or established patients and will have several tasks:
   1. In a new patient to complete a physical or to address a specific complaint
   2. In an established patient to perform and suggest an annual check-up or to address a specific complaint
   3. Hospital follow-up

B. While working in the hospital, students will:
   1. Perform complete history and physicals
   2. Develop a problem list and management plan
   3. Write admission and progress notes for the patient’s charts
   4. Write orders co-signed by a resident or attending
   5. Orally present patients to a team and attending
   6. Perform or observe procedures

GENERAL GOALS
During their clerkships students will get the opportunity to transfer their knowledge of the basic sciences into clinical practice. This means that the general goals of this clerkship are:

A. Students will develop responsibility and autonomy as well as the ability to use their knowledge, skills and personal, social and/or methodological abilities, both in work and study situations and in professional and personal development.

B. Students will apply basic scientific principles they’ve learned – particularly regarding the etiology of diseases/conditions. This includes applied knowledge of pathophysiological, biochemical, genetic, molecular and cellular mechanisms, as well as genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic and behavioral causes and the non-biological determinants of poor health in the diagnostics and treatment of relevant diseases/conditions.

C. Students will apply principles of evidence-based medicine, medical ethics, and cost-effectiveness to decisions regarding diagnosis, therapeutics, and prognosis. They will utilize electronic databases and other resources for obtaining biomedical information that is useful and relevant for clinical problem solving and decision-making. They will practice critical analysis of the original biomedical data and secondary data in the medical literature with special emphasis on the evaluation of the appropriateness of methodological design, on statistical analysis and data interpretation, on formulating accurate hypotheses about the causes and solutions of medical problems.

D. Students will gain experience in developing strategies for exploring medical problems and achieving reasoned conclusions in accordance with best practices and the literature.

E. Students will develop the skills and habits of clinical decision making and apply principles of evidence based medicine so that they will become self-learners and routine users of EBM principles both in the routine practice and in further professional and scientific work and self-development.

F. Students will have the opportunity to perform core technical procedures and participate in all other activities relevant to the training process.

G. Students will have the opportunity to participate in research projects and to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.

SPECIFIC GOALS
A. To enable SJSM students to understand the family systems model of patient care, to confront the clinical problems commonly encountered by family physicians, and to apply that knowledge in community practice

B. To develop student’s competencies in the field in family medicine

C. To effectively prepare students to enter post-graduate training in family medicine and to assess family medicine as the area in which they might wish to take up their further education.

D. To introduce service-learning and community-practice based activities

E. To understand the physician’s role and responsibilities in disease prevention, health promotion, and patient education.

F. To prepare students for life-long learning and for the routine use of the evidence-based medicine and research when confronted with common medical problems, including the use of information technology in promoting evidence-based disease management.
When faced with the patient/problem situation that represents diversity of community and family health care, occupational, and environmental issues impacting the health care for patients of all ages, the student will be able to demonstrate the knowledge, skills, and attitude/behavior in both evaluation and management of selected common problems/diseases:

A. Systemic Problems: HIV Infection, generalized lymphadenopathy, chronic fatigue syndrome, fever of unknown origin, significant weight change, and dizziness/vertigo

B. Dermatological Problems: generalized pruritus, skin lesions and tumors, viral skin disorders, fungal infections, alopecia, and nail disorders

C. Ophthalmological Problems: conjunctivitis, glaucoma, cataracts, diabetic retinopathy, and corneal ulcer

D. Otorhinolaryngological Problems: hearing loss, ear, nasal, throat discharge, tinnitus, epistaxis, allergic reactions, sinusitis, trauma, throat infections (bacterial, fungal, and viral), lymphadenopathy, dysphasia, hoarseness, ulcerations, and neck masses

E. Cardiorespiratory Problems: acute shortness of breath, chronic dyspnea/orthopnea, pulmonary infections, hemoptysis, lung carcinoma, pleural effusion, obstructive and restrictive lung disorders, palpitation, arrhythmias, congestive heart failure, heart murmurs/valvular diseases, bacterial and viral infections of the heart, hypertension, chest pain, and hyperlipidemia

F. Hematologic Problems: anemias, bleeding disorders, leukemias and lymphomas

G. Endocrinologic Problems: hormonal abnormalities, particularly diabetes and thyroid

H. Gastrointestinal Problems: nausea, vomiting, heartburn, jaundice, hepatitis, liver diseases, gallbladder disease, abdominal pain, diarrhea, constipation, obstipation, GI bleeding, peptic ulcer disease, inflammatory bowel disease, diverticulosis, gastric, colon, and rectal diseases

I. Genitourinary Problems: urinary tract infections, sexually transmitted diseases, renal calculi, hematuria, proteinuria, benign prostatic hypertrophy, prostatic cancer, urinary incontinence

J. Neurological Problems: headache, seizure disorders, Parkinson's disease, delirium, dementia, consciousness disorders, cerebrovascular disease, multiple sclerosis, Bell's Palsy, and trigeminal neuralgia

K. Musculoskeletal Problems: neck and low back pain, osteoporosis, arthritides and arthralgias, osteoarthritis, rheumatoid arthritis, gout, and minor orthopedic traumas

L. Psychiatric Problems: anxiety disorders, depression, substance abuse, insomnia, and eating disorders

M. Common Poisonings, Overdoses, and Injuries: lead, acetyl salicylate, antifreeze, carbon monoxide, cleaning products, insect repellents and stings, medications, mushrooms, pesticides, poison ivy and oak, etc.

Upon completion of this clerkship the student will be able to:

A. List the subjective complaints associated with each common problem.

1. List questions that should be asked of patients with these complaints.

2. Discuss how the answers may be used to differentiate between diagnoses.

3. Indicate diagnoses that may be determined on history alone.

B. Demonstrate the knowledge and perform appropriate objective examination relevant to each common problem

1. Discuss physical findings and how their presence or absence differentiates between diagnoses.

2. Indicate those diagnoses that may be determined by history and physical exam alone.

3. List laboratory tests indicated on initial evaluation of these complaints, and interpret the results appropriately to differentiate between diagnoses.

C. Demonstrate competence in evaluation of common problems.

1. Acute diseases care

2. Chronic diseases care

D. Suggest appropriate management for these problems including:

1. Patient education

2. Drug and non-drug therapy

3. Monitoring and follow-up of the designated problem

4. Use of individual and community resources

5. Identification of care team members where indicated in management protocol

E. Discuss the role of patient-centered communication in the care of patients in health and disease.

F. Document care clearly and concisely in the medical record, using problem-based SOAP note format, as permitted by and countersigned by the preceptor.

G. Outline preventive health measures.

1. Primary

2. Secondary

3. Tertiary

H. The student will be able to interpret test results including (minimal requirements): PA, chest x-ray (normal from abnormal), extremity films to rule fracture, CBC and differential, blood chemistries, urinalysis with microscopic examination, and blood gases.

I. The student will be able to recognize the importance of patient education.
J. The student will be able to provide information about the prevention and treatment of the topics of (minimal): contraception, nutrition, heart disease, hypertension, pregnancy, breast self-examination, and risk factors.

K. The student will demonstrate knowledge and the understanding when it is age and/or clinical setting appropriate to perform screening examinations, including, but not limited to: colon cancer, prostate cancer, breast cancer, gynecological cancers as well as immunizations according to the current Recommendations, Guidelines and schedules published by the Centre for Disease Control and Prevention.

L. The student will be familiar with the following pharmacological agents associated with ambulatory medicine: analgesics, antacids, antibiotics, antihypertensives, anxiolytics, antiarrhythmics, antidepressants, antihypertensives, vasodilators, antiparkinson’s agents, anticonvulsants, topical steroids, insulins, thyroid drugs, bronchodilators, scabicides, and pediculocides.

M. Student will demonstrate the ability to define and describe the principles of community health as it relates to clinical care.

1. Identify community services and resources available for the care of patients in the community setting.

2. Identify barriers to the access of community based resources.

3. Demonstrate an understanding of culturally competent community care.

4. Discuss principles of competent community health interventions.

5. Successfully complete one of the community health competency programs.

N. Student will demonstrate the ability to discuss and implement the principles of chronic disease management:

1. Discuss the components and principles of chronic disease management.

2. Demonstrate appropriate use of clinical guidelines.

3. Discuss and implement patient-centered self-management principles.

4. Identify and assess community resources for chronic disease management.

O. Student will demonstrate understanding of the principles of patient safety and quality improvement in a clinical setting:

1. Be able to discuss the role of quality improvement in the daily practice of medicine.

2. Identify and implement evidence-based clinical guidelines in a patient-centered manner.

3. The student will be able to discuss the role of a chart audit as a component of quality improvement.

P. Student will identify and demonstrate understanding of how health issues impact families and how family dynamics impact health:

1. Obtain a family history from a patient, including relevant psychosocial and environmental issues as well as medical problems.

b. Demonstrate the ability to obtain a medical genogram.

c. Identify components of family history that impact risk profile.

d. Identify preventive measures to address identified risk based on family history.

2. Discuss the interpersonal i.e., family, community, cultural factors which can impact the course of a patient’s illness and wellness.

3. Discuss the impact a disease process or illness in a patient can have on his or her family and other interpersonal relationships.

4. Describe psychosocial interventions that a physician might use with a patient and/or family to enhance treatment outcome.

**SKILLS**

Upon completion of this clerkship the student will demonstrate:

A. The ability to perform the following clinical skills (minimal requirements):

1. Venipuncture/arterial blood collection

2. Taking an EKG

3. Administration of parental medications

4. Urinalysis with microscopic

5. Dressing change

6. Cast and splint

7. Suturing and suture removal

B. Effective communication skills:

1. Student will present clinical scholarship to mentors and colleagues through a variety of media which may include clinical vignettes, posters, written manuscripts etc.

2. Student will describe the relevance of scholarly work to the clinical sciences.

**ATTITUDES**

After completing the Family Medicine curriculum, the student will be able to:

A. Demonstrate a sensitivity to understanding and relating to the emotional and social background of patients.

B. Relate and perform professionally in a working situation with other members of the health care team.

C. Demonstrate a willingness to ask for help from other people and resources for patient care when appropriate.

D. Demonstrate openness to recognizing limitations by using resource referrals and consulting with supervising preceptor when appropriate.

E. Demonstrate openness to receiving constructive criticism.

F. Show a general concern for patients as demonstrated by his/her thoroughness of monitoring patients and attitude toward record keeping.
G. Demonstrate that he/she has done independent outside reading concerning problems seen.

H. Demonstrate a constructively self-critical manner.

I. Perform duties with a professional comportment, encompassing such areas as attendance, dress code, and general demeanor.

J. Acknowledge the psychosocial factors present in the care of the ambulatory patient.

K. Demonstrate compassion and empathy towards patients and their families with episodic and chronic illnesses.

L. Establish effective relationships with patients, families, attending physicians, nurses, and other health professionals.

M. Appreciate the cost and cost-effectiveness of ambulatory care.

N. Appreciate the moral and ethical implications of the problems found in ambulatory care.

**EXPOSURE TO CATEGORIES OF PATIENTS**

In addition to the medical conditions listed above, during the clerkship, students must also see the following categories of patients.

A. New acute condition of an undifferentiated problem, with emphasis on diagnosis

B. Chronic condition with emphasis on management

C. Exacerbation of a chronic condition with emphasis on management

D. Asymptomatic patient with emphasis on preventive care and screening

E. Patient with limited access to care

Any gaps in the terms of missing conditions can be remedied by a simulated experience: standardized patient, peer, an online or paper case or in another rotation.

*Never forget that the basic responsibility for addressing the objectives of the course rests with the student.*
INTERNAL MEDICINE

INTRODUCTION

Internal medicine is the medical specialty dealing with the prevention, diagnosis, and treatment of adult diseases and the management of patients who have undifferentiated or multi-system diseases. Internal medicine is by far the largest medical specialty. The internist is a clinical problem-solver that integrates pathophysiological, psychosocial, epidemiological, and all other “bedside” information to address urgent problems, manage chronic illness, and promote health. Internists apply the best scientific evidence to patient care and many participate in research and/or teach medical students and residents.

General internists coordinate and provide longitudinal care for adults with any problem, sometimes by working in concert with colleagues and subspecialists.

Subspecialists (cardiologists, nephrologists, oncologists, critical care physicians etc.) focus on the care of patients with specific diseases and disorders. Many of the subspecialties of internal medicine are heavily procedure-based. Subspecialists may treat patients whose major problems are within their area or may work as consultants to general practitioners and specialists in other disciplines.

The Internal medicine clerkship is a student’s main opportunity to improve his/her fundamental skills of data collection, clinical reasoning, and understanding of the pathophysiological process and to become familiar with the common acute and chronic illnesses in adults as well as with screening methods and preventive medicine activities. Through supervised responsibility for patient care in the area of general internal medicine, case presentations and written documentation, practical experience, attendance at grand rounds, medical conferences, team meetings, floor rounds and assignments, supplemented with didactic presentations and student readings appropriate to the care of the student’s own patients, the Internal Medicine clerkship will expand the student’s medical knowledge, solidify his/her basic clinical skills (patient interviewing, physical examination, communication etc.) and improve more advanced skills (developing physician-patient relationship, clinical reasoning skills, etc.)

Since an internist’s practice may be mostly office-based, mostly hospital-based, or a combination of both, the student will achieve educational objectives both in the ambulatory and hospital settings. Research activities may be part of the clerkship as well.

Therefore the main purpose of ambulatory rotation is to increase ones understanding of the different outpatient encounters in the ambulatory setting, to offer opportunities to the practice medicine in different patient settings and to introduce the principles of management of a patient in an ambulatory setting, including when the ambulatory patient needs hospital care.

A. While working in the ambulatory setting, students will encounter new or established patients and will have several tasks:

1. In a new patient to complete a physical or to address a specific complaint
2. In an established patient to perform and suggest an annual check-up or to address a specific complaint
3. Hospital follow-up

B. While working in the hospital, students will:

1. Perform complete history and physicals
2. Develop a problem list and management plan
3. Write admission and progress notes for the patient’s charts
4. Write orders co-signed by a resident or attending
5. Orally present patients to a team and attending
6. Perform or observe procedures

GOALS

The main goal is for the student to develop responsibility and autonomy as well as the ability to use their knowledge, skills, and personal, social and/or methodological abilities, both in work and study situations and in professional and personal development.

During their clerkships students will have the opportunity to transfer their knowledge of the basic sciences into clinical practice. They will have the opportunity to demonstrate the understanding of basic scientific principles they’ve learned – particularly regarding the etiology of diseases/conditions. That includes applied knowledge of pathophysiological, biochemical, genetic, molecular and cellular mechanisms, as well as genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic and behavioral causes and the non-biological determinants of poor health in the diagnostics and treatment of relevant diseases/conditions.

They will acquire the specific clinical skills, knowledge, and professional behaviors necessary to evaluate and care for adult patients with growing independence guided by careful and consistent supervision from residents and attending physicians. Specific goals, objectives and the instructional strategies depend upon the training institution.

Students will apply principles of evidence-based medicine, medical ethics, and cost-effectiveness to decisions regarding diagnosis, therapeutics, and prognosis. They will utilize electronic databases and other resources for obtaining biomedical information that is useful and relevant for clinical problem solving and decision-making. They will practice critical analysis of the original biomedical data and secondary data in the medical literature with special emphasis on the evaluation of the appropriateness of methodological design, on statistical analysis and data interpretation, on formulating accurate hypotheses about the causes and solutions of medical problems. The purpose of this part of training is to obtain experience in developing strategies for exploring medical problems and to achieve reasoned conclusions in accordance with best practices and literature. The familiarity with evidence based medicine will help them to become capable of using EBM as a routine practice in further professional and scientific work and self-development.

Students will have the opportunity to perform core technical procedures and participate in all other activities relevant to the training process.

Students will have the opportunity to participate in research projects and to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.
Objectives

The student will demonstrate knowledge of the evaluation and management for selected common problems/diseases seen in the following systems:

A. Cardiology: signs assigned to cardiac causes, evaluation of shortness of breath, evaluation of chest pain, new appearance of congestive heart failure, methods of distinguishing rhythm disturbances, pericarditis, hypotension, hypertension, risk factors for coronary artery disease, dyslipidemias

B. Endocrinology: list the endocrinologic causes of some common syndromes, GI: thyroid, adrenal insufficiency, cortisone-like steroids, Diabetes Mellitus, hypoglycemia, hypercalcemia, nutrition, pituitary hypofunction, and hyperfunction

C. Gastrointestinal: abdominal pain, esophageal disorders, peptic ulcer disease, GI bleeding, inflammatory bowel disease, jaundice, hepatitis, liver cirrhosis, pancreatitis, diarrhea, aspiration and constipation, malabsorption, and GI tumors

D. Hematology and Oncology: common carcinomas, tumor-node-metastasis (TNM) classification of cancer, oncologic emergencies, screening for tumors, bone marrow, spleen and liver diseases with hematological consequences, anemias and polycythemia, neutropenia and thrombocytopenia, Hodgkin’s and non-Hodgkin’s lymphomas and leukemias, diseases suggested by abnormalities in coagulation tests, action and use of heparin, coumadin, and streptokinase

E. Infectious Diseases: how to search for a source of infection acquired in different circumstances, meningitides, CSF analysis, bacterial endocarditis, erysipelas and skin infections, urinary tract infection, shaking chills, diarrheal diseases, acute arthritis, chronic arthritis, septic bursitis, infectious problems in diabetes mellitus, sickle cell anemia, splenectomy, homosexuality, obtaining adequate cultures

F. Nephrology: dysuria, anuria, prostatic enlargement, bladder dysfunction, renal and bladder stones, urethral and ureteral obstruction, renal pathophysiology, the special value of the IVP, Sonogram, Cystoscopy, CAT scan, hypovolemia and hypervolemia, electrolytes disturbances, etiology of renal, essential, or adrenal hypertension, concepts and the common causes of renal failure in prerenal, renal and post-renal azotemia, clinical sequelae of chronic azotemia, interstitial kidney disease and glomerular diseases and injuries, renal cystic diseases, inflammatory diseases, infective diseases, renal arterial occlusion, renal vein occlusion, kidney malfunction in: diabetes mellitus, systemic lupus erythematosus, hypertension, gout, liver failure, complications of pregnancy

G. Neurology: definition and physical in upper motor neuron/lower motor neuron syndrome, dementia, delirium and disturbances of consciousness, higher cortical sensory deficits, common signs and their importance (Hermitte’s sign, rigidity, spasticity, Myerson’s sign, disorientation phenomena, Hoffman’s sign, Babinski sign), selected movement disorders (tremor, Parkinson’s disease and syndromes, tics, chorea), demyelination, elevated ICP, pain and neuralgias, weakness and paresthesia, conversion disorders, narcolepsy, spinal stenosis, syncope, seizures and epilepsy, migraines and cluster headaches differential diagnosis, vitamins and the nervous system, neurologic complications of alcoholism and substance abuse, neurologic dysfunction in HIV infection, stroke and neurological emergencies, CNS tumors

H. Respiratory Tract: pulmonary infections, pneumonias, empyema, pleura, carcinomas, atelectasis, pneumo/hemothorax, pulmonary embolism, COPD, asthma and airway narrowing, obstructive and restrictive pulmonary disease - lung volumes, forced expiratory airflow, and chest x-ray, physiological and pathological hypoxemia, bronchiectasis, cystic fibrosis, adult respiratory distress syndrome, immunosuppression, diagram of Oxygen saturation, airflow and respiratory effort, lymhatic and blood flow disturbances, examination of sputum and punctate, pulmonary function tests

I. Rheumatic Disease: immunoglobulins, IgG and IgM, Rheumatoid factors, antinuclear antibodies, complement, inflammatory joint diseases, extraarticular manifestations of rheumatic diseases, vasculitides, collagenosis, joint pain

J. Psychiatric: anxiety, depression, and personality disorders

K. Therapy:

1. Actions, uses, and complications of common medications for the gastrointestinal tract (digestive system), cardiovascular system, central nervous system, pain & consciousness, musculo-skeletal disorders, respiratory system, endocrine problems, urinary system, contraception, skin, for infections and infestations, the immune system, allergies, nutrition, neoplastic disorders and diagnostic pharmacology

2. The role of non-pharmacological treatments including: counseling, heat and cold, rest, and physical therapies

Minimal Specific Objectives

By the end of this clerkship the student will be expected to demonstrate proficiency in the following skills:

A. Interviewing - the ability to:

1. Demonstrate appropriate listening skills and the effective verbal skills.

2. Obtain a patient’s history in a logical, organized, and thorough manner.

B. Physical Exam - the ability to:

1. Demonstrate step-by-step performance of basic procedures with technical proficiency as appropriate.

2. Demonstrate proper hygienic practices whenever examining a patient

3. Position the patient and self properly for each part of the physical examination.

4. Observe precautions and contraindications for the procedures used.

5. Adapt the scope and focus of the history and physical exam appropriately to the medical situation and the time available.

6. Perform a physical examination for a patient in a logical, organized, respectful, and thorough manner, giving attention
to the patient's general appearance, vital signs, and pertinent body regions.

7. During follow-up visits: update historical information and repeat important parts of the physical exam.

C. Generate a Problem List - the ability to:
1. Describe the pathophysiologic mechanisms that explain key findings in the history and physical exam.
2. Use the differential diagnosis to help guide the priority of diagnostic test ordering and sequence for following problems: fever, fatigue, syncope, muscle weakness, weight loss/gain, cough, night sweats, arthralgias, intermittent claudication, difficulty breathing, shortness of breath, hemoptysis, chest pain, JVD, edema, abdominal pain, vomiting, diarrhea, hematemesis, bowel incontinence, jaundice, melena, constipation, icterus, urinary retention, incontinence, hematuria etc.
3. Elicit the patient's chief complaint as well as a complete list of the patient's concerns.

D. Presentations - the ability to:
1. Orally present a new patient case in a logical manner.
2. Orally present a follow-up patient's case.

E. Respect for Patient Values - the ability to:
1. Identify patient's emotional needs.
2. Respect patient's informed choices, including the right to refuse treatment.
3. Always make efforts to maximize patient comfort during a procedure.
4. Determine the extent to which a patient wants to be involved in making decisions about his/her care.

F. Professionalism - the ability to:
1. Respect patient confidentiality.
2. Ensure that patient's medical needs are addressed.
3. Recognize potential conflicts of interest.
4. Deal with uncertainty.
5. Behave ethically.

G. Honesty and Reliability - the ability to:
1. Accurately and objectively record and present data.
2. Handle clinic duties in responsible manner.
3. Be prompt for clinic responsibilities.

H. Generate differential diagnoses - the ability to:
1. Use probability-based thinking to identify the most likely diagnosis.
2. Formulate a differential diagnosis based on the findings from the history and physical examination.

I. Interpret basic test data - the ability to:
1. Describe the various components and the range of normal variation of a complete blood count, blood smear, electrolyte panel, general chemistry panel, electrocardiogram, urinalysis, pulmonary function tests, body fluid cell counts and chemistries and discuss findings in stool, sputum, urine, wound drainage, and throat culture.
2. Describe the performance characteristics of tests (sensitivity, specificity, likelihood ratios).
3. Understand test sensitivity, test specificity, pre-test probability, and predictive value.
4. Explain results of tests in terms of the related pathophysiology.
5. Estimate the implications of test results before ordering tests and after test results are available.
6. Explain how errors in test interpretation can affect clinical outcomes and costs.
7. Interpret a blood smear, gram stain, electrocardiogram, chest X-ray, and urinalysis (minimum).
8. Record the results of laboratory tests in an organized manner, using flow sheets when appropriate.

J. Prioritize problems - the ability to:
1. Assess priority of diagnostic tests.
2. Differentiate patient problems.

K. Develop diagnostic plan - the ability to:
1. Use information resources for determining medical and other treatment options (including surgery) for patients with common and uncommon medical problems.
2. Identify key factors to consider in choosing among treatment options, including risk, cost, evidence about efficacy, consistency with pathophysiologic reasoning, including pretest probabilities.
3. Describe alternatives to a given procedure.
4. Become familiar with administrative procedures: admission orders, daily orders, progress notes, discharge summaries, SOAP progress notes, etc.

L. Develop therapeutic plan - the ability to:
1. Formulate an initial therapeutic plan based on pathophysiologic reasoning and scientific evidence of effectiveness.
2. Access and utilize, when appropriate, information resources to help develop an appropriate and timely therapeutic plan.
3. Describe the factors to consider in selecting a medication from within a class of medication including drug interactions, potential adverse effects, and compliance problems.
4. Incorporate the elements of patient autonomy, treatment efficacy, quality of life, and societal demands into decision-making.
5. Begin to estimate the probability that a therapeutic plan will produce the desired outcome.
6. Describe the factors to consider in monitoring a patient's response to treatment.

M. Understand the concept of benefit/risk decision making - the ability to:
1. Participate in selecting the diagnostic studies with the greatest likelihood of providing useful results at a reasonable cost while limiting the chances of false positive/false negative results.
2. Describe how critical pathways or practice guidelines can be used to guide diagnostic test ordering.
3. Describe how to use critical pathways and clinical practice guidelines to help guide therapeutic decision-making.

N. Evidence-based approach - the ability to:
1. Use pretest probabilities and scientific evidence about performance characteristics of tests (sensitivity, specificity, likelihood ratios) to determine post-test probabilities.
2. Describe the various ways that evidence about clinical effectiveness is presented to clinicians and the potential biases of using absolute or relative risk or number of patients needed to treat.

O. Informed Consent - the ability to:
1. Communicate risks and benefits to patients.

P. Education and self-directed learning – the ability to:
1. Give and receive constructive feedback.
2. Acknowledge gaps in knowledge to both colleagues and patients and request help.
3. Ask colleagues (students, residents, nurses, faculty) for help when needed.
4. Recognize when he or she needs additional information to care for the patient.
5. Assess the limits of medical knowledge in relation to patient problems.
6. Make use of available instruments to assess personal knowledge.

Q. Demonstrate teaching skills - the ability to:
1. Educate patients and caregivers about how to take their medications and what to expect when they take their medications, including beneficial outcomes and potential adverse effects.
2. Educate members of the team regarding evolving diagnostic or therapeutic modalities utilizing evidence-based medicine.

R. Demonstrate leadership skills - the ability to:
1. Identify appropriate questions to ask.
2. Show initiative in addressing patient care issues.
3. Provide a model for patients, peers, and colleagues.

S. Communication Skills
1. On completion of this clerkship, the student will present clinical scholarship to mentors and colleagues through a variety of media which may include clinical vignette, poster, written manuscripts, etc.
2. Describe the relevance of scholarly work to the clinical sciences.

T. Professionalism
1. Demonstrate punctuality, reliability, completion of research timetable, mature interpersonal skills, and the willingness to seek help as needed in completion of a project.

 Required Medical Procedure Skills
A. By the end of Internal Medicine clerkship, it is mandatory that the student perform the following medical procedures:
1. Arterial puncture on a model
2. Demonstrate proper use of an inhaler
3. EKG leads placement
4. Injections (intradermal, intramuscular, and subcutaneous)
5. Inserting a Foley catheter in both male and female patient
6. Inserting an intravenous catheter, inserting a nasogastric tube on the model
7. Know and perform universal precautions
8. Perform lumbar puncture on a model
9. Manage an airway, including endotracheal intubation on a model
10. Skin suturing/ removal of sutures
11. Sterile technique (scrub, gown, glove)
12. Drape
13. Venipuncture and IV starts
14. Observe a pulmonary function test
B. The student should assist with and/or have knowledge of and indications for the following procedures under direct supervision:
1. Cut down
2. Paracentesis
3. Lumbar puncture
4. Joint aspiration and/or injection
5. Insertion of CVP line
6. Peritoneal dialysis
7. Chest tubes placements
8. Tracheostomy

 Exposure to Medical Diseases/ Conditions
The NBME subject exam information is a basis for most medical conditions the student should encounter during this clerkship. However, to assist in meeting the intended objectives, the following conditions are those for which students are expected to evaluate and
care for during the clerkship with guidance from faculty and residents (history, physical, laboratory, imaging as well as special diagnostics procedures, e.g. biopsy, OGTT, treadmill, etc.).

1. Abdominal pain
2. Abnormal ECG
3. Acid base, fluids and electrolytes problems
4. Acute and chronic renal failure
5. Anemia/Transfusion therapy
6. Cancer
7. Congestive heart failure
8. ECG, Coronary Artery Disease
9. Depression
10. Diabetes Mellitus, DKA/Hyperosmolar non-ketotic coma, cellulitis, wound care, diabetic ulcers
11. Dyslipidemia
12. HIV infection
13. Hypertension
14. Jaundice/liver diseases)
15. Arthritis, arthralgia, joint pain (DJD, RA, SLE, gout)
16. Low back pain
17. Peptic ulcer disease/GERD
18. Upper respiratory infection
19. Urinary tract Infection
20. GI bleeding/Inflammatory bowel disease
21. Basic radiology - CXR, KUB
22. Medical complications of alcoholism and substance abuse
23. Collagen vascular diseases
24. Common malignancies
25. COPD/Asthma/Respiratory failure and Blood gas analysis
26. Cough and Dyspnea
27. Thyroid Disease
28. Acute blood loss)
29. Syncope and altered mental status
30. Deep vein thrombosis
31. Headache
32. Pain Management
33. Preventive Care
34. Severe/Sepsis
35. Liver Disease – acute or chronic
36. Pneumonia
37. Shock/Hypotension
38. Thromboembolic Disease – Pulmonary embolism or deep vein thrombosis
39. Tuberculosis

**Exposure to Categories of Patients**

In addition to the medical conditions listed above, during the clerkship, students must also see the following categories of patients:

A. New acute condition of an undifferentiated problem, with emphasis on diagnosis
B. Chronic condition with emphasis on management
C. Exacerbation of a chronic condition with emphasis on management
D. Asymptomatic patient with emphasis on preventive care and screening
E. Patient with limited access to care

Any gaps in the terms of missing conditions can be remedied by a simulated experience: standardized patient, peer, an online or paper case or in another rotation.

Never forget that the basic responsibility for addressing the objectives of the course rests with the student.
NOTES:
SAINT JAMES SCHOOL OF MEDICINE

SURGERY

CLINICAL SCIENCES
INTRODUCTION

Surgery is the medical specialty that uses operative manual and instrumental techniques on a patient to investigate and/or treat a pathological condition such as disease or injury, to help improve bodily function or appearance, and to control surgery-related conditions like: bleeding, pain, infection. It is primarily an inpatient service experience where students will learn to recognize and assist in the treatment of disease during which surgery may play a role in a patient’s treatment and recovery.

Students learn basic anesthesiological and surgical procedures, asepsis, correct handling of tissue, and technical skills to assist the surgeon in the operating room. Students assist in pre-and postoperative care to learn various surgical treatments and to recognize potential risks associated with respective treatments. Each student is required to be involved in each patient’s preoperative, intraoperative and postoperative care.

Through supervised responsibility for surgical patient care, through case presentations and written documentation, through practical experience, attendance at grand rounds, medical conferences, team meetings, floor rounds and assignments, supplemented with didactic presentations and student readings appropriate to the care of student’s own patients, during surgery clerkship, students expand his/her medical knowledge, solidify his/her basic clinical skills (patient interviewing, physical examination, communication etc.) and improve more advanced skills (developing rapport in the context of specific patient’s psychological state, recognizing surgery problems, developing basic surgery skills etc.). They will learn how to operate and more importantly when NOT to operate.

A. While working in the ambulatory setting, students will encounter new or established patients and will have several tasks:
   1. In a new patient to complete a physical or to address a specific complaint.
   2. In an established patient to perform and suggest an annual check-up or to address a specific complaint.
   3. Identify what constitutes appropriate surgical referral by recognition of which problems are clearly surgical, potentially surgical, and those which do not require surgical intervention.
   4. Hospital follow-up

B. While working in the hospital, students will:
   1. Perform complete history and physicals
   2. Develop a problem list and management plan
   3. Write admission and progress notes for the patient’s charts
   4. Write orders co-signed by a resident or attending
   5. Orally present patients to a team and attending
   6. Perform or observe procedures
   7. Evaluate and critique an article from the surgical literature

GENERAL GOALS

During their clerkships students will have the opportunity to transfer their knowledge of the basic sciences into the clinical practice. This means that students will develop responsibility and autonomy as well as the ability to use their knowledge, skills and personal, social and/or methodological abilities, both in work and study situations and in professional and personal development.

They will have the opportunity to demonstrate their understanding of basic scientific principles they’ve learned – particularly regarding the etiology of diseases/conditions. This includes applied knowledge of pathophysiological, biochemical, genetic, molecular and cellular mechanisms, as well as genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic, and behavioral causes and the non-biological determinants of poor health in the diagnosis and treatment of relevant diseases/conditions.

Students will apply the principles of evidence based medicine, medical ethics, and cost-effectiveness to decisions regarding diagnosis, therapeutics, and prognosis. They will utilize electronic databases and other resources for obtaining biomedical information that is useful and relevant for clinical problem solving and decision-making. They will practice critical analysis of original biomedical data and secondary data in the medical literature with special emphasis on evaluation of the appropriateness of methodological design, on statistical analysis, and data interpretation on formulating accurate hypotheses about the causes and solutions of medical problems. The purpose of this part of their training is to obtain experience in developing strategies for exploring medical problems and to achieve reasoned conclusions in accordance with best practices and the medical literature. Familiarity with evidence based medicine will help them to use EBM as a routine practice in further professional and scientific work and self-development.

Students will have the opportunity to perform core technical procedures and participate in all other activities relevant to the training process.

Students will have the opportunity to participate in research projects and to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.

SPECIFIC GOALS

Students to be enabled to evaluate, diagnose, and treat patients with problems requiring surgical intervention, taking into account:

A. Recognition of surgical problems.
B. Knowledge of alternative treatments.
C. How and when to refer a surgical patient.
D. The scope of responsibility of the surgeon to whom they have made the referral.
E. The scope of responsibility student assumes
F. How to care for the patient in the immediate post-operative period.
G. How to recognize post-operative complications needing further surgical care.
H. Cost/risk/benefit, as it applies to patient care.
General Objectives

A. Student will demonstrate knowledge of the surgical evaluation and management for selected common problems/diseases seen in the following subjects:

1. Anesthesiology: Basic skills and ASA physical status classification system, the administration and management of anesthesia, airway management, the basics of monitoring and pharmacology pertinent to general and regional anesthesia and intravenous sedation, in any of subspecialty areas: critical care, obstetrics, cardio-thoracic, vascular, neurosurgical, pediatric anesthesia and/or pain.

2. Surgery:
   b. Surgery subspecialties: otolaryngology, gynecology, oral and maxillofacial surgery, orthopedic surgery, neurosurgery, ophthalmology, pediatric surgery, urology

3. Emergency medicine and Surgery critical care: Acute conditions, not of life-threatening nature, rapid history and physical examination, 3and procedures such as suturing, IV lines, chest tubes, intubation, burn and wound care, casting, etc. Accent is on fast orientation, differential diagnoses and estimation of prevalence, reversibility and severity of the illnesses as well as clinical decision-making and technical performance in simple procedures. Critically ill surgical and medical patients, treatment of sepsis, respiratory failure, hemodynamic monitoring and the role of intensive care medicine are subjects of evaluation and management as well.

4. Pain management: The review of the most common pain problems, patient’s evaluation and management, basic principles of pain management, anatomy as related to the different procedures performed, review of pain related pharmacology (analgesic and local anesthetic), interventional pain management and procedures like: cervical, thoracic, lumbar epidural, SI blocks, facet blocks, nerve root blocks, radiofrequency neurolysis, spinal cord stimulators, infusion pumps, discography and percutaneous intra discal therapies (e.g. nucleoplasty), vertebroplasty

Specific Goals

The goal of the surgery clerkship is to introduce the student to the principles of caring for the surgical patient. This goal is accomplished by allowing the student to participate in the care of patients in the various stages of evaluation and treatment by surgeons. These stages include but are not limited to the preoperative office or clinic visit, inpatient admission, operative procedure and inpatient and outpatient recovery. Through this exposure, the student will begin to understand the general process of the application of surgical therapy to patients in a wide variety of stages. Furthermore, by participating as an active member of the surgical team, the student will observe the role of the surgeon as a member of the multidisciplinary team that provides care for the patient. The clerkship is structured upon the principle that learning is an active process which can be accomplished only by the student. The role of the faculty and house staff is to provide guidance, stimulation and example.

Specific Objectives

A. Knowledge

1. Students will be able to perform initial history and focused physical examination of the surgical patient including:
   a. the appropriate surgical admission history.
   b. Perform an orderly and systematic approach to diagnosis and treatment (appropriate surgical admission physical examination).
   c. Perform suitable preoperative procedures of the surgical patient.
   d. Write admission orders, preoperative, operative and postoperative notes and discharge summaries.
   e. Perform necessary observations to record SOAP progress notes.
   f. Interpret laboratory tests to include at least: CBC with differential,
   g. electrolytes/chemistry profile, arterial blood gases, urinalysis and microscopic, PT/PTT, INR.
   h. Interpret radiological findings reported by the radiologist for the flat and upright of the abdomen, chest posterior/anterior and lateral, upper GI series, barium enema, extremity films, HIDA Scan, mammography, ultrasonography, CAT Scan/MRI.
   i. Order blood and blood products.
   j. Manage the postoperative patient.

2. Student will demonstrate the acquisition of a basic core of surgical knowledge, especially its capabilities and limitations.

3. Student will be able to present orally and discuss surgical problems with which they have dealt from the list of conditions cited under the section “Patients condition” or evaluate and critique relevant article from the surgical literature relevant to those conditions.

4. Student will demonstrate that they are familiar with the following:
   a. Operative procedures used in the treatment of surgical diseases
   b. Function of the O.R. and the surgeon’s role
   c. Techniques of follow-up and long-term postoperative care
   d. Assigned literature on surgical diseases
   e. Comprehend and apply specific surgical protocol in the operating room, e.g. scrubbing, gowning, gloving, draping, and prepping.

5. The student will know the action, dosage, and use of the pharmacological agents associated with the management of surgical patients as well as principles of blood transfusion.
a. Analgesics (including but not limited to)
   - Codeine
   - Darvocet
   - Demerol (Meperidine)
   - Dilaudid (Hydromorphone)
   - Fentanyl
   - Lortab (Hydrocodone)
   - Morphine
   - Percocet (Oxycodone)
   - Ultram (Tramadol)
   - Vicodin (Hydrocodone)
b. Antibiotics (including but not limited to)
   - Amoxicillin
   - Ampicillin
   - Ancel (Cefazolin)
   - Keflex (Cefalexin)
   - Levaquin (Levofloxacin)
   - Linezolid
   - Maxipime (Cefepime)
   - Piperacillin
   - Rifampin
   - Rocephin (Ceftriaxone)
   - Vancomycin
c. Antifungals: (including but not limited to)
   - Amphotericin B
   - Flagyl (Metronidazole)
   - Nystatin
d. Fluids (including but not limited to)
   - Half-Normal Saline (.45 NaCl)
   - Normal Saline (.9 NaCl)
   - Lactated Ringer’s
   - 5% Dextrose (D5)
   - Blood substitutes
   - Blood products
e. Electrolytes (including but not limited to)
   - Calcium Chloride
   - Magnesium Chloride
   - Potassium Chloride
   - Phosphorous (Potassium Phosphate)
f. Anticoagulants (including but not limited to)
   - Argatroban
   - Coumadin (Warfarin)
   - Heparin
   - Lovenox (Enoxaparin)
g. Diuretics (including but not limited to)
   - Lasix (Furosemide)
   - Hydrochlorothiazide (HCTZ)
h. Anesthetics: (including but not limited to)
   - Isoflurane Nitrous Oxide pancuronium
   - Propofol
   - Succinylcholine
   - Vecuronium
i. Sedatives (including but not limited to)
   - Ativan (Lorazepam)
   - Librium (Chlordiazepoxide)
   - Pentobarbital
   - Valium (Diazepam)
   - Versed (Midazolam)
   - Phenobarbital
   - Seconal (Secobarbital)
j. Antacids (including but not limited to)
   - Pepcid (Famotidine)
   - Tagamet (Cimetidine):
k. Miscellaneous
   - Dioctyl Sodium Sulfosuccinate
   - Flurazepam HC1 (Dalmane)

B. Skills
1. Students will demonstrate that they developed specific motor skills utilized in surgery.
2. Student will have knowledge of and will have observed: arterial puncture technique, placement of central venous line, placement of long term central venous catheters, implanting of infusoport, placement of a chest tube and they will have understanding the physiological mechanism behind the repair of pneumothorax and hemothorax.
3. Student will be able to demonstrate skills as follows:
   a. Demonstrate and discuss proper isolation technique.
   b. Demonstrate the ability to scrub, gown, and glove, and maintain proper sterile techniques in the surgical setting.
   c. Demonstrate knowledge of and proper usage of commonly used surgical instruments.
d. Perform simple surgical procedures (suturing lacerations and surgical wounds).

e. Stapling of lacerations and surgical wounds, removal of sutures and skin staples, steristrip use in laceration and surgical wounds, drainage of abscesses, surgical dressings, placement and management of drains - opened and closed.

f. Demonstrate indications for and insertion of nasogastric tube and daily care.

g. Demonstrate indications for and insertion of urinary catheter and daily care.

h. Demonstrate methods of giving injections (intradermal, subcutaneous, intramuscular).

i. Demonstrate knowledge of equipment and technique for starting peripheral therapy.

j. In performing a procedure, student will demonstrate: respect of tissue, efficient time and motion, competent use of instruments, correct knot placement with appropriate tension, smooth flow of performance and knowledge of procedure.

4. The student will be able to perform the following procedural skills:

a. Arterial/venous blood collection

b. Starting IVs

c. Performing EKG/basic interpretation of EKG

d. Inserting Foley catheter

e. Nasogastric tube insertion

f. Suture techniques and removal

g. Maintain aseptic techniques

h. Assisting in the operating room

i. Wound dressing, repair - simple and complex and debridement

j. Burns treatment (evaluation, classification, treatment and ABA criteria).

C. Attitude

After completing the Surgery clerkship the student will be able to:

1. Demonstrate a sensitivity to understand and relate to the emotional and social background of patients.

2. Relate and perform professionally in a working situation with other members of the health care team.

3. Demonstrate an understanding of what resources are appropriate.

4. Demonstrate an openness to recognize limitation by using resources referrals and consultation with supervising preceptor or others, when appropriate.

5. Demonstrate an openness to receive constructive criticism.

6. Show a general concern for patients, as demonstrated in thoroughness of monitoring patients and attitudes toward record keeping.

7. Demonstrate that he/she has done independent outside reading concerning problems seen.

8. Demonstrate a constructively self-critical manner.

9. Perform duties within a professional comportment encompassing such areas as attendance, dress code, and general demeanor.

Patient Conditions

For each condition or disease listed below, the student will be expected to know (as applicable): the anatomy, pathophysiology, presenting symptoms, positive physical findings, differential diagnosis and treatment. This includes: medical/surgical alternatives, when treated medically, indications for surgical intervention, risk factor assessment, pre-operative management, post-operative management, complications (recognition and treatment), adjuvant therapies (indications and outcome), prognosis, discharge, patient education, follow-up care, and resumption of normal activities.

A. Diseases/conditions that the student will be able to recognize with appropriate physical examination and historical and to suggest a management plan for each:

1. Intracranial tumor/aneurysm/AVM

2. Goiter/neck mass

3. Carotid ASHD

4. Lung tumor

5. Pulmonary embolism

6. Pneumothorax/hemothorax

7. Breast mass/cancer

8. Mallory-Weiss syndrome

9. Esophageal varices

10. Peptic ulcer disease

11. Gastritis

12. Gastric carcinoma

13. Cholecystitis/lithiasis/cholangitis

14. Pancreatitis

15. Bowel obstruction (small and large)

16. Meckel’s diverticulum

17. Diverticulitis

18. Appendicitis

19. Mesenteric adenitis

20. Crohn’s disease

21. Thrombophlebitis

22. Volvulus

23. Intussusception

24. Colon cancer
25. Hemorrhoids
26. Anal fissure
27. Perirectal abscess
28. Portal hypertension
29. Hernia (hiatal/abdominal/inguinal)
30. Arteriosclerotic occlusive disease
31. Renal calculi
32. Prostatic hypertrophy
33. Hypovolemic shock
34. Aortic aneurysm
35. Injured/burned patient
36. Abdominal Pain
37. Acute Cholecystitis
38. Bowel Obstruction
39. Closed Head Injury
40. Diverticulitis
41. Hypovolemia
42. Multi System Organ Failure
43. Peripheral Vascular Disease
44. Postoperative Pain
45. Sepsis
46. Shock
47. Surgical Site Infection
48. Trauma - Blunt
49. Trauma - Penetrating

**B.** The student should be as well able to recognize, through appropriate use of historical and physical examination skills, and know the differential diagnosis and management of the following post-operative complications:

1. Fever
2. Wound infection
3. Pulmonary embolism
4. Pneumonia
5. Urinary retention
6. Ileus
7. Constipation
8. Renal failure
9. Wound dehiscence/evisceration
10. Adhesions
11. Atelectasis
12. Arrhythmias

13. Deep venous thrombosis
14. Hematoma/seroma
15. Urinary infection
16. MRSA (Methicillin-resistant staphylococcus aureus)

**EXPOSURE TO CATEGORIES OF PATIENTS**

In addition to the medical conditions listed above, during the clerkship, students must also see the following categories of patients.

1. New acute condition of an undifferentiated problem, with emphasis on diagnosis
2. Chronic condition with emphasis on management (conservative vs surgery)
3. Asymptomatic patient with emphasis on preventive care and screening

Any gaps in the terms of missing conditions can be remedied by a simulated experience: standardized patient, peer, an online or paper case or in another rotation.

*Never forget that the basic responsibility for addressing the objectives of the course rests with the student.*
INTRODUCTION

Pediatrics is the branch of medicine that deals with the issues unique to childhood and adolescence, from birth to the age of 18 (in countries where the age of maturity is 18, this age limit may be from birth to age 17). Pediatricians often work in collaboration with other health professionals. They can work as a primary care pediatrician or become a subspecialist in adolescent medicine, pediatric allergy and immunology, cardiology, critical care, developmental/behavioral, emergency medicine, endocrinology, gastroenterology, hematology/oncology, infectious diseases, toxicology, nephrology, pulmonology, rheumatology, sports medicine, neonatal/perinatal medicine, neurodevelopmental disabilities, etc. Other specialists sometimes choose to work as pediatric dermatologist, geneticist, neurologists, anesthesiologist, heart surgeons, neurosurgeons, ophthalmologist, otolaryngologist, orthopedic surgeon, plastic surgeons, pediatric surgeons, urologists etc.

The pediatric clerkship focuses on human developmental biology, the impact of family, community and society on child health and well-being, the impact of disease and its treatment on the developing human, growth and development, health supervision and recognition of common health problems, prevention of disease and injury, etc. Students have the opportunity to participate in the clinical activities of both general and subspecialty pediatric services. The emphasis is placed on basic issues and commonly occurring illnesses, but other less common problems may need to be included in the evaluation of various clinical problems. Those opportunities will be met by both inpatients and outpatients.

GENERAL GOALS

During their clerkship students will have the opportunity to transfer their knowledge of the basic sciences into the clinical practice. This means that students will develop responsibility and autonomy as well as the ability to use their knowledge, skills and personal, social and/or methodological abilities, both in work and study situations and in professional and personal development.

They will have the opportunity to demonstrate the understanding of basic scientific principles they’ve learned – particularly regarding the etiology of diseases/conditions. This includes applied knowledge of patrophysiological, biochemical, genetic, molecular and cellular mechanisms, as well as genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic, and behavioral causes and the non-biological determinants of poor health in the diagnosis and treatment of relevant diseases/conditions.

Students will apply the principles of evidence-based medicine, medical ethics, and cost-effectiveness to decisions regarding diagnosis, therapeutics, and prognosis. They will utilize electronic databases and other resources for obtaining biomedical information that is useful and relevant for clinical problem solving and decision-making. They will practice critical analysis of the original biomedical data and secondary data in the medical literature with special emphasis on the evaluation of the appropriateness of methodological design, on statistical analysis and data interpretation, on formulating accurate hypotheses about the causes and solutions of medical problems. The purpose of this part of training is to obtain experience in developing strategies for exploring medical problems and to achieve reasoned conclusions in accordance with best practices and the medical literature. Familiarity with evidence based medicine will help them become capable of using EBM as a routine practice in further professional and scientific work and self-development.

Students will have the opportunity to perform core technical procedures and participate in all other activities relevant to the training process.

Students will have the opportunity to participate in research projects and to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.

The specific goals of the Pediatric clerkship are designed to foster:

A. Acquisition of basic knowledge of growth and development (physical, physiologic and psychosocial) and of its clinical application from birth through adolescence.

B. Development of communication skills that will facilitate the clinical interaction with children, adolescents and their families and thus ensure that complete, accurate data are obtained.

C. Development of competency in the physical examination of infants, children and adolescents.

D. Acquisition of the knowledge necessary for the diagnosis and initial management of common pediatrics acute and chronic illnesses and the development of clinical problem-solving skills.

E. An understanding of the influence of family, community, and society on the child in health and disease.

F. Development of strategies for health promotion as well as diseases and injury prevention.

G. Development of the attitudes and professional behavior appropriate for clinical practice.

GENERAL OBJECTIVES

The student will demonstrate knowledge of the evaluation and management for selected common problems/diseases seen in following systems:

A. Health Supervision: Assessment of growth and development, prevention of disease by immunization, prevention of injury by education, screening for treatable conditions, and promotion of a healthy environment and a healthy lifestyle.

B. Growth: As the defining feature of childhood, growth is influenced by genetic and environmental factors. Regular monitoring of growth, final stature, and body habitus provide the clinician with the best indicators of the underlying health of the child.

C. Development: Physical maturation and intellectual, social, and motor development of the child follow predictable patterns and provide the physician with a good indicator of the child’s health and function.

D. Behavior: Non-medical concern of infants, children, adolescents, and their families that provides both service and anticipatory guidance in the areas of normative or expected behaviors, stress and coping, child rearing issues, school-related expectations.
and problems and the effects of illness on behavior including the recognition and treatment of age-inappropriate and significantly deviant behaviors.

E. Nutrition: Food pyramid, basic biochemistry of a protein, carbohydrate, fat, and caloric content of each, vitamin groups and their common dietary sources, and the role of nutrition in preventive health.

F. Prevention of Illness and Injury: Injuries, rather than infections, cause the majority of deaths in childhood and adolescence and strategies for prevention of injury as well as currently recommended immunizations from birth through adolescence and their adverse side effects and contraindications of each are the part of the routine preventive advices.

G. Issues Unique to Adolescence: Medical problems common in adolescents reflect, in part, the interplay between physical and psychosocial development encompasses physical changes, in addition to cognitive and psychosocial maturation.

H. Issues Unique to the Newborn: The newborn has unique needs and vulnerabilities which are distinct from other periods of infancy and the events before, during, and after delivery can have profound and lifelong effects on the baby. This is also a specialty field of the Neonatologist.

I. Medical Genetics and Congenital Malformations: Distinguishing between genetic and non-genetic congenital disorders, recognizing genetic diseases presenting later in childhood and counseling.

J. Common Pediatric Illnesses: Problem list with differential diagnoses, etiology, pathophysiology, epidemiology, gender, ethnicity, environment and prior health status, age, physical growth, developmental stage, and family environment.

K. Fluid and Electrolyte Management: Uninterrupted supply of water, electrolytes, and an energy source are particularly important in infants and young children because of their high total body water, basal metabolic rate, and daily turn-over of water.

L. Poisoning Prevention and Treatment: Poisons are major, preventable, cause of childhood morbidity and mortality.

M. Pediatric Emergencies

N. Child Abuse: Physical and sexual abuse is part of the spectrum of family dysfunction, that causes physical, sexual and/or emotional trauma, or may occur in the form of neglect of the basic physical, emotional, or medical needs. Medical professionals are required by law to protect children and adolescents by identifying abuse and by reporting it to child protective services. Students must understand the varying presentations of abuse, and must recognize the physical, emotional, and social factors that put a child at risk for abuse. Students must know when to consider abuse in the differential diagnosis of child or adolescent health problems, and must further understand the legal obligation they will eventually have as mandatory reporters of abuse.

O. Child Advocacy: Habits adopted during childhood have broad implications throughout life, and practicing preventive pediatrics is important to all physicians caring for children. Both medical and non-medical problems can adversely impact a child’s well-being. Pediatricians often serve as advocates for individual children and families, as consultants to schools and health care agencies.

**Specific Objectives**

A. Knowledge

By the end of this clerkship, students will demonstrate proficiency at recognizing normal and abnormal patterns of growth and development and be able to:

1. Demonstrate the ability to perform a detailed, age appropriate, history which includes all the pertinent elements on a new admission to the assigned inpatient service, to expand and contract the history and physical based on the presenting symptom, to efficiently use an interpreter. Identify the primary concerns of the patient and/or family.

2. Be able to recognize common cultural differences of patients from different backgrounds and communicate in a culturally sensitive manner with patients from different cultural backgrounds and respect cultural differences while taking a history, conducting a physical exam, and reviewing the management plan with the family.

3. Specific elements are:
   
a. Neonatal history, including: birth weight, approximate gestational age, maternal complications (such as extent of prenatal care, infections, exposure to drugs, alcohol or medications); and problems in the newborn period (such as prematurity, respiratory distress, jaundice, and infections), immunizations, developmental milestones, and diet
   
b. Family history: number and ages of siblings; consanguinity, known genetic disorders, early childhood deaths, cardiovascular disease, depression, and alcohol abuse
   
c. Social history: assessment of the home environment, school, and peer relationships
   
d. Demonstrate knowledge and understanding the normal psychosocial development of pediatric population.

4. Demonstrate the ability to modify the medical history depending on the age of the child, with particular attention given to the following age groups: Neonate, infant, toddler/ preschool-aged child, school-aged child, and adolescent and understanding how findings have different clinical significance depending on the age of the child.

5. Demonstrate the ability to perform physical examination, with establishing rapport with children of various ages, recognizing influences of the age of a child, and perform a complete physical examination on an infant, a child and an adolescent, including the observation and documentation of normal physical findings.

6. Recognize the important role of observation, as a method of obtaining data in the assessment of the child.

7. Demonstrate the appropriate use of the limited or focused examination, particularly in the ambulatory setting.

8. Perform the Denver Developmental Screening Test and know how it is used to assess motor, language, and social development.

9. Demonstrate the knowledge of physical findings specific for age groups.
a. Appearance: Signs of acute illness in an infant, a toddler, and a child, by evaluating skin color, respiration, hydration, mental status, cry, and social interaction; and recognize the importance of observing the psychosocial condition of the child, including behavior, development, body habitus (height, weight, body fat), relationship to parent and examiner, and general condition.

b. Vital signs: Measure heart rate, respiratory rate, blood pressure, and temperature in an infant and a child, demonstrating knowledge of the appropriate sized blood pressure cuff, interval to count respirations, and normal variation in temperature depending on the route of measurement (oral, rectal, axillary, or tympanic); understand that normal values of heart rate, respiratory rate, and blood pressure change with age, and recognize the importance of assessing vital signs in the evaluation of acute illness.

c. Measurements: Accurately measure height, weight, and head circumference; plot the data on an appropriate growth chart; understand the normal relationships between height, weight and head circumference, and recognize the usefulness of longitudinal data.

d. HEENT (Head, Eye, Ear, Nose, and Throat Exam): Identify the anterior and posterior fontanelles and assess them for fullness or turgor; recognize the need for careful observation of the head size and shape, symmetry, facial features, ear size, and hair whorls, as part of the examination for dysmorphic features; recognize the red reflex and strabismus; assess hydration of the mucous membranes, and examine the tympanic membranes using pneumatic otoscopy.

e. Neck: Palpate lymph nodes; know what anatomic areas they drain; know that lymph nodes are more prominent during childhood, and recognize and demonstrate maneuvers that test for nuchal rigidity.

f. Chest: Recognize how the rate and pattern of respirations change with age and that abdominal respirations are normal in infants; observe the rate and effort of breathing as a measure of respiratory distress; recognize stridor, wheezing, and rales, and be able to distinguish between inspiratory and expiratory obstruction; interpret less serious respiratory sounds, such as transmitted upper airway sounds.

g. Cardiovascular: Palpate pulses in the upper and lower extremities, and ausculate the heart for rhythm, rate, quality of the heart sounds, and murmurs.

h. Abdomen: Understand that the liver edge, spleen tip, and kidneys may be palpable in the normal newborn; examine the umbilical cord for signs of infection; examine the abdomen for distention, tenderness, rebound, and mass lesions in an infant or young child with lethargy, irritability, or signs of acute illness, noting the inability of the patient to communicate symptoms of abdominal complaints, and be able to do a rectal examination and recognize when it is indicated.

i. Genitalia: Recognize the appearance of normal male and female genitalia in the newborn; recognize abnormalities, including cryptorchidism, hypospadias, and testicular mass in the male; be able to examine the external genitalia of a female patient, and recognize the need for privacy at all ages.

j. Extremities: Examine the hips of a newborn for dysplasia; recognize arthritis, and evaluate gait and limp.

k. Back: Know how to test for scoliosis.

l. Neurologic Examination: Elicit primitive reflexes; assess tone, gait, strength, reflexes, recognizing the importance of symmetry; assess developmental milestones, and recognize that much of the neurologic examination of infants and children is accomplished through observation alone.

m. Skin: Recognize jaundice, petechiae, purpura, common birth marks (such as nevus flammeus and Mongolian spots), vesicles, urticaria and common rashes, such as erythema toxicum, impetigo, eczema, diaper dermatitis, and viral exanthems; recognize common skin findings associated with child abuse and assess skin turgor.

10. Demonstrate knowledge and understanding the basic scientific principles underlying the biochemical, genetic, molecular, and cellular mechanisms that determine the normal development, structure and function of the body as a whole and of its major organ systems:

a. Demonstrate the knowledge of the role of nutrition, exercise, healthy lifestyles, and preventive medicine in promoting health and decreasing risk of disease.

b. Demonstrate the knowledge of the etiology of diseases and disorders (e.g. genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic and behavioral causes).

c. Demonstrate the knowledge of the non-biological determinants of poor health including economic, sociocultural, and psychological factors that may contribute to or prolong illness.

d. Demonstrate the knowledge of the pathology and pathophysiology (altered structure and function) of major diseases and abnormal conditions.

11. Be able to distinguish between a well and a sick child and identify the symptoms and signs of common pediatric illnesses:

a. Demonstrate the knowledge of the epidemiology of common disorders in pediatric and general populations and approaches designed to screen and detect illness and to reduce incidence and prevalence of disease in populations; as well as knowledge of key signs and symptoms, and the frequency and prevalence of diseases at different ages, when developing a differential diagnosis.

b. Interpret clinical, laboratory, radiographic, and pathologic manifestations of major diseases and disorders.

c. Demonstrate the understanding of the physiology, pathology, and pathophysiological mechanisms of major diseases and abnormal conditions.
d. Explain the variants in clinical manifestation, course, and prognosis of diseases and in therapeutics in pediatric patients, including immunologically, neurologically, or behaviorally compromised and the need to modify therapeutic regimens in these groups.

12. Be able to describe evaluation and management of common pediatric illnesses:

   a. Demonstrate the knowledge of the etiology of diseases and disorders (e.g., genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic and behavioral causes) and the non-biological determinants of poor health including economic, sociocultural, and psychological factors that may contribute to or prolong illness.

   b. Interpret clinical, laboratory, radiographic and pathologic manifestations of major diseases and disorders.

   c. Demonstrate the knowledge of the spectrum of pharmacologic, surgical, psychological treatment of common physical and mental disorders and symptoms such as pain; the biological and sociocultural role of complementary medicine; common adverse effects of therapies and the relative efficacy of therapeutic interventions in the healing process.

13. Be able to list components of health maintenance in childhood:

   a. Demonstrate knowledge in the field of nutrition, development, immunizations, and implement anticipatory guidance.

   b. Explain the role of nutrition, exercise, healthy lifestyles, and preventive medicine in promoting health and decreasing risk of disease.

   c. Demonstrate knowledge and understanding of the etiologies of common pediatric diseases and disorders and the non-biological determinants of poor health including economic, sociocultural, and psychological factors that may contribute to or prolong illness.

   d. Discuss the nutritional advice to provide families regarding: infant breast feeding vs. formula feeding; why solids are added to an infant’s diet, and the use of cow's milk.

   e. Discuss how to advise families about the dietary prevention and treatment of common pediatric mineral (iron, fluoride, calcium) and vitamin deficiencies.

   f. Obtain a routine diet history on an infant that includes: the type of feeding (breast vs. formula) with amount and frequency, types and approximate amounts of solids, and diet supplements given (vitamins, fluoride, iron).

   g. Determine whether a formula-fed infant is receiving adequate calories.

   h. Recognize when nutritional assessment is necessary beyond infancy and demonstrate how to obtain a daily diet diary with the assistance of a nutritionist.

   i. Demonstrate the knowledge of fluid and electrolyte management: obtain historical information to assess state of hydration; recognize the physical exam findings of dehydration; calculate and write IV orders for initial fluid replacement and maintenance fluids for a patient with dehydration; explain the clinical consequences of electrolyte disturbances, including electrolyte imbalances and pH changes and explain to parents how to use oral rehydration therapy for mild/moderate dehydration.

   j. Demonstrate the knowledge of prevention of illness and Injury: initiate a discussion about immunizations with the family of an infant, a toddler, and a child about to enter school, including immunization side effects and counsel an adolescent about hepatitis B prevention.

   k. Demonstrate the knowledge of poisoning/prevention and treatment: provide anticipatory guidance regarding home safety and appropriate technique to prevent accidental ingestions, elicit an appropriate history surrounding an ingestion (type, route, amount, timing), demonstrating sensitivity to the emotions of guilt and anxiety that may be present in the parent or caregiver, demonstrate knowledge about the use of the poison control center and other information resources in the management of the patient with an ingestion.

   l. Demonstrate the knowledge of pediatric emergencies: identify the patient who requires immediate medical attention and intervention; describe the initial emergency management of shock, seizures, severe respiratory distress, head trauma, and cervical spine trauma in childhood; recognize those situations in which concern about intentional injury should be raised; describe findings suggestive of non-accidental trauma and recognize how the signs of shock in a child differ from those in an adult.

14. Be able to identify connections between developmental factors and pediatric illnesses:

   a. Demonstrate the knowledge and understanding of the basic scientific principles underlying the biochemical, genetic, molecular, and cellular mechanisms that determine the normal development, structure and function of the body as a whole and of its major organ systems and apply that knowledge in everyday practice.

   b. Demonstrate the knowledge and understanding of the normal psychosocial development of pediatric population.

   c. Demonstrate the knowledge and understanding of the etiology and pathophysiological mechanism underlying the diseases, disorders and conditions, as well as biological and non-biological contributing factors.

   d. Discuss the appropriate use and interpretation of the following screening tests: neonatal screening, developmental screening, hearing and vision screening, lead screening, and drug screening.

15. Be able to identify factors in the child’s context:

   a. Identify family socioeconomic background and cultural beliefs that could affect care.

   b. Define and explain normal psychosocial development.
c. Point, define and explain biological and non-biological factors contributing to health.

d. Demonstrate knowledge of the variants in clinical manifestation, course, prognosis of diseases, and in therapeutics in children and adults or immunologically, neurologically, or behaviorally compromised patients and the need to modify therapeutic regimens in these groups.

e. Discuss how to relate news of a serious acute or chronic illness or a congenital abnormality to parents and how your discussion would differ with the child or the adolescent.

16. Demonstrate knowledge about the use of medications and therapeutic agents:

a. The knowledge to make a choice of the correct medication, the appropriate dose, and both a dosage form and a dosing regimen that will maximize compliance

b. The knowledge of pharmacokinetics changes under the influence of growth and physiologic maturation and the therapeutic; the adverse effects of variability with child growth and maturation and how a drug dose is calculated for infants and prepubertal children

c. The knowledge of how child behavior and psychomotor development influence the form of medication dispensed and the expectation for compliance.

d. The knowledge and understanding of the appropriate use of the following common medications in the outpatient setting, including when it is NOT appropriate to treat with a medication:
   - Analgesics/antipyretics
   - Antibiotics
   - Bronchodilators
   - Corticosteroids
   - Cough and cold preparations

f. The knowledge of how to write a prescription.

e. The knowledge of the most common generic types of medications used for management of the following uncomplicated conditions:
   - Otitis media
   - Wheezing
   - Conjunctivitis
   - Allergic rhinitis
   - Urinary tract infection
   - Impetigo
   - Eczema
   - Fever
   - Streptococcal pharyngitis
   - Acne

2. Generate a differential diagnosis for common pediatric complaints:

a. Demonstrate knowledge in etiology, pathogenesis, course and outcomes of common pediatrics problems.

b. Formulate an appropriate plan for evaluating patients to achieve a reasonable differential and working diagnosis, initial diagnostic and therapeutic plan, considering the cost, risks, benefits, and limitations of laboratory tests, imaging studies, medications, consultations, hospitalization, and more conservative measures, such as observation.

c. Develop therapeutic management plans for patients with common acute or chronic medical, surgical, or psychiatric conditions

3. Communicate effectively, professionally, and politely with patients and family members, supervising physicians, student colleagues, residents, nurses, ancillary personnel, and all other health care team members:

a. Demonstrate the ability to present patients in an organized, systematic way which includes all the essential elements of the history and physical and also includes pertinent positives and negatives to rule in or out the diagnostic possibilities.

b. Demonstrate the ability to effectively communicate with patients and their families using simple, clear, terms understandable by the parents.

c. Demonstrate the ability to write a complete admission history and physical exam and progress notes on patients assigned to them.

d. Demonstrate critical thinking and diagnostic reasoning by writing problem-based notes on assigned patients and include differential diagnosis, assessment, and diagnosis plan.

e. Demonstrate the ability to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.

f. Demonstrate the ability to communicate effectively and compassionately with patients and their families about the evaluation, diagnosis, therapy, and prognosis of disease.
g. Demonstrate the ability to counsel patients in a caring, empathetic, and culturally-sensitive way about behaviors that promote a healthy lifestyle and prevent disease.

h. Demonstrate the ability to communicate relevant information through written notes and oral presentations and present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.

i. Take a complete and relevant history and perform a pertinent physical examination on a patient who presents with a behavioral problem.

j. Elicit age-appropriate behavioral concerns during the health supervision visit.

k. Distinguish between age-appropriate “normative” behavior and serious psychiatric illness.

l. Demonstrate the knowledge in medical genetics and congenital malformations; discuss common physical exam findings and implications associated with the diagnosis of chromosomal abnormalities, both autosomes and sex chromosome abnormalities as well as other genetic disorders and congenital malformations.

m. Identify commonly-used prenatal diagnostic techniques and their uses.

n. Discuss the effects of teratogenic agents including: alcohol, hydantoin, maternal tobacco smoking, and illicit drug use.

o. Collect relevant information, including history and physical exam, to evaluate a genetic disorder or congenital defect and construct a family pedigree.

p. Develop a differential diagnosis and management approach for common pediatric clinical problems, discuss etiology and/or pathophysiology and natural history of the cough and URI, fever, sore throat, ear pain, abdominal pain, vomiting/diarrhea, dermatitis/rash, trauma, joint pain, and limping.

q. After observation, the student will be able to demonstrate the understanding of the indications for procedures and their technical aspects such as a lumbar puncture, parenteral fluids, including intravenous and intra-osseous fluids, and emergency procedures such as intubation.

The student will also observe how to provide emotional support for patients undergoing procedures.

C. Attitudes

1. By the end of this course, students will demonstrate professional and humanistic attitudes in the care of children and their families, including respect for each child and family member’s culture and health beliefs and be able to:

a. Demonstrate the acknowledgement of the importance of altruism, patient advocacy, and dutifulness to patients, that involves placing the patient’s needs before one’s own.

b. Demonstrate the commitment to provide compassionate care to all patients regardless of the patient’s disease, prognosis, age, gender, race, sexual orientation, ethnicity, religious, cultural or health-related beliefs, socioeconomic class, citizenship status, or ability to pay for care.

c. Demonstrate respect in all interactions for patients’ privacy, confidentiality, dignity, beliefs, and family, cultural, or religious values even when such values would conflict with one’s own values.

d. Demonstrate honesty and integrity in all interactions and activities with patients, families, medical colleagues, and others, and also in the collection, synthesis, analysis, and presentation of scientific and clinical data; maintenance of a professional demeanor in one’s work and as a role model for society including the demonstration of an attitude that values timely attendance, punctuality, and reliability in the performance of one’s duties.

e. Demonstrate tolerance of parent and family differences in attitudes, behaviors, and lifestyles but recognize when a child or adolescent is at risk and know when and how to intervene. Provide examples that demonstrate how child-rearing practices differ across cultural and ethnic groups and in socioeconomic situations.

2. Demonstrate professionalism and be able to:

a. Demonstrate the professional conduct necessary for a successful clinical interaction with health care team members and administrative staff.

b. Demonstrate acceptance, collaboration, and respect for other colleagues and for other health professionals who provide services to patients, populations, or communities.

3. Demonstrate a commitment to life-long learning and be able to:


b. Review a topic assigned to them and present in a clear succinct manner to the group.

c. Demonstrate a commitment to a scholarly approach to medical problems.
d. Recognize the need to continually improve knowledge and skills through lifelong self-directed study.

e. Demonstrate intellectual curiosity, initiative, responsibility, and reliability.

f. Recognize his/her limits of knowledge and experience and ask for appropriate help in a time-efficient manner and to accept constructive suggestions without immediately rejecting them, becoming upset or feeling threatened. The student uses those suggestions and demonstrates improvement in those specific areas.

g. Utilize skill in coping with stress while taking care of a patient with complex medical problems or a patient facing a terminal illness.

Pediatric Problems, Conditions, Diseases, and Disorders

In addressing the objectives of the course, student will encounter at least the following problems, conditions, diseases and/or disorders:

A. Newborn Problems:
   - Jaundice
   - Spitting Up
   - Cyanosis
   - Vomiting
   - Constipation
   - Stuffy Nose/Sneezing
   - Thrush
   - Baby acne
   - Dry Skin
   - Watery Eyes
   - Diaper Rashes
   - Upper Respiratory Infections
   - Jitter/epilepsy
   - Colic
   - Poor feeding/lethargy
   - Sepsis
   - Umbilical cord infections

B. Childhood/Adolescent problems:
   - Cough
   - Fever
   - Sore Throat
   - URI
   - Runny nose
   - Otitis/Ear Pain
   - Abdominal Pain
   - Vomiting
   - Diarrhea +/- gastrointestinal
   - Failure to thrive
   - Dermatitis/Rash/Skin problems
   - Trauma
   - Joint/Limb Problems
   - Headaches
   - Other CNS problems
   - Skin and other wounds
   - Lower extremity problems
   - Accidents and poisonings
   - General exam in the cases of:
     - Regular checking ups
     - Significant weight gain or loss
     - Sleep problems
     - Changes in behavior
     - Fever higher than 102
     - Rashes or skin infections
     - Frequent sore throats
     - Breathing problems

C. Significant Physical Findings
   - Heart Murmur
   - Lymphadenopathy
   - Splenomegaly
   - Hepatomegaly
   - Abdominal Mass
   - Impaired Vision
   - Impaired Hearing
   - Pallor/Anemia
   - Bruising/Petechiae
   - Hematuria
   - Proteinuria

D. Acute clinical problems
   - Shock
   - Airway Obstruction
   - Ataxia
   - Foreign body aspiration
   - Seizures
   - Respiratory Distress
   - Delirium/Corna
   - Apnea syndrome

E. Infections
   - Vaccine Preventable Infections
   - Chicken Pox
   - Meningitis
   - Diphtheria
   - Mumps
   - Haemophilus Influenza type B (Hib)
   - Polio
   - Hepatitis A
   - Rotavirus
   - Hepatitis B
   - Rubella
   - Influenza
   - Tetanus
   - Measles
   - Whooping Cough
F. Respiratory Infections
- Bronchiolitis
- RSV
- Croup
- Tuberculosis

G. Skin Infections
- Warts
- Staph Skin Infections
- Yeast Diaper Rash
- Head Lice
- Ringworm

H. Intestinal Infections
- Clostridium difficile
- Pinworms
- Cryptosporidium
- Rotavirus
- E. Coli
- Salmonella

I. Infections of the Head, Ears, Nose, and Throat
- Ear Infections
- Strep Throat
- Meningitis
- Swimmer’s Ear
- Mononucleosis
- Thrush
- Pink Eye
- Sinusitis
- Pyelonephritis
- Rosacea
- Croup
- RSV
- Mononucleosis

J. Urinary Tract Infections
- Cystitis

K. Viral Infections
- Chickenpox
- Hand Foot and Mouth Disease
- Cold and Flu

L. Bacterial Infections
- Staph Skin Infections and MRSA
- Pertussis Fact Sheet

M. Fungal Infections
- Athlete’s foot
- Thrush
- Ringworm
- Aspergillosis

EXPOSURE TO CATEGORIES OF PATIENTS
In addition to the medical conditions listed above, during the clerkship, students must also see the following categories of patients.

1. Healthy child development
2. New acute condition of an undifferentiated problem, with emphasis on diagnosis
3. Chronic condition with emphasis on management
4. Exacerbation of a chronic condition with emphasis on management
5. Asymptomatic patient with emphasis on preventive care and screening
6. Patient with limited access to care

Any gaps in the terms of missing conditions can be remedied by a simulated experience: standardized patient, peer, an online or paper case, or in another rotation.

Never forget that the basic responsibility for addressing the objectives of the course rests with the student.
INTRODUCTION

OB/GYN specialists provide comprehensive, quality health care for women covering the spectrum of a woman’s life from childhood/adolescence, through the reproductive years, to menopause and beyond. They deal with both inpatients and outpatients. Student’s clerkship will however predominantly be an inpatient clinical experience. Related outpatient clinical experiences are periodically integrated into the rotation to provide students with an understanding of routine OB/GYN care performed in the physician’s office. The obstetrical conditions and gynecological problems commonly encountered by the physician provide the primary focus for this clerkship experience.

Students will be required to take call, attend conferences, and read suggested literature. They will perform selected procedures necessary to provide ante-partum, post-partum care, and pre- and post-operative care of gynecological-surgical patients. They will practice skills and techniques to do normal, uncomplicated deliveries and will participate in the management of more complex problems in obstetrics. Emphasis will be placed on pelvic exams and identifying pathology. Attention will be directed to the psychosocial impact of pregnancy and gynecologic disease on the female patient and the family unit.

A. While working in the ambulatory setting, students will encounter new or established patients and will have several tasks:
   1. In a new patient to complete a physical or to address a specific complaint
   2. In an established patient to perform and suggest an annual check-up or to address a specific complaint
   3. Hospital follow-up

B. While working in the hospital setting, students will:
   1. Perform complete history and physicals
   2. Develop a problem list and management plan
   3. Write admission and progress notes for the patient’s charts
   4. Write orders co-signed by a resident or attending
   5. Orally present patients to a team and attending
   6. Perform or observe procedures

GENERAL GOALS

During their clerkships students will get the opportunity to transfer their knowledge of the basic sciences into the clinical practice. That means that general goals of this clerkship are:

C. Students will develop responsibility and autonomy as well as the ability to use their knowledge, skills and personal, social and/or methodological abilities, both in work and study situations and in professional and personal development.

D. Students will apply basic scientific principles they’ve learned – particularly regarding the etiology of diseases/conditions. That includes applied knowledge of pathophysiological, biochemical, genetic, molecular and cellular mechanisms, as well as genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic and behavioral causes and the non-biological determinants of poor health in the diagnostics and treatment of relevant diseases/conditions.

E. Students will apply the principles of evidence-based medicine, medical ethics, and cost-effectiveness to decisions regarding diagnosis, therapeutics, and prognosis. They will utilize electronic databases and other resources for obtaining biomedical information that is useful and relevant for clinical problem solving and decision-making. They will practice critical analysis of original biomedical data and secondary data in the medical literature with special emphasis on evaluation of the appropriateness of methodological design, on statistical analysis and data interpretation and on formulating accurate hypotheses about the causes and solutions of medical problems.

F. Students will obtain experience in developing strategies for exploring medical problems and achieving reasoned conclusions in accordance with best practices and medical literature.

G. Students will develop the skills and habits of clinical decision making and apply the principles of evidence based medicine so that they will become self-learners and routine users of EBM principles both in the routine practice and in further professional and scientific work and self-development.

H. Students will have the opportunity to perform core technical procedures and participate in all other activities relevant to the training process.

I. Students will have the opportunity to participate in research projects and to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals

OBJECTIVES

Upon completion of this clerkship the student will demonstrate the skills and knowledge necessary for the evaluation and management of selected common problems/diseases seen in the following:

A. Obstetrics: Care of women and their children during pregnancy (prenatal period), childbirth and the postnatal period. This includes:
   1. Maternal-fetal medicine (perinatology), focused on the medical and surgical management of high-risk pregnancies and surgery on the fetus with the goal of reducing morbidity and mortality
   2. Advanced Life Support in Obstetrics

B. Gynecology: dealing with the health of the female reproductive system (uterus, vagina, and ovaries). This includes:

   Reproductive endocrinology and infertility that focuses on the biological causes and interventional treatment of infertility
   1. Gynecological oncology focused on the medical and surgical treatment of women with cancers of the reproductive organs
   2. Urogynecology and pelvic reconstructive surgery focused on the diagnosis and surgical treatment of women with urinary incontinence and prolapse of the pelvic organs.
3. Advanced laparoscopic surgery
4. Family planning: contraception and pregnancy termination (abortion)
5. Pediatrics and adolescent gynecology
6. Menopausal and geriatric gynecology

**MINIMAL SPECIFIC LEARNING OBJECTIVES OF THE OBSTETRICS AND GYNECOLOGY CLERKSHIP**

**A. Knowledge**

1. Demonstrate awareness of the important contextual factors such as culture, ethnicity, language, socioeconomic class and public health issues that are associated with providing competent women's health care by incorporating ethical, social, and diversity perspectives in interaction with patients.

2. Demonstrate interpersonal and communication strategies that provide effective communication and collaboration with patients and their families, always respecting the privacy, autonomy, and comfort of the female patient.

3. Obtain accurate obstetric and gynecologic history and physical exam: complete a comprehensive women's medical interview, including menstrual, obstetric, gynecologic, contraceptive, sexual (including orientation and function), family and social histories and perform complete physical exam, pelvic exam, and an organ-system specific examination.

4. Organize patient information in a cohesive and thorough written note.

**B. Student will demonstrate knowledge and application of the basic and clinical sciences relevant and appropriate to the clinical practice of medicine by being able to:**

1. Demonstrate knowledge of the female anatomy and physiology, including reproductive growth and development, endocrinological changes and the description of the physiological, psychological, and anatomical changes across the lifespan.

2. Discuss puberty and menopause, describe the physiology of normal menstrual cycle including hormonal and histologic changes, define and describe the etiologies of amenorrhea and oligomenorrhea, primary and secondary dysmenorrhea, diagnosis and potential treatment/appropriate management of menopausal/perimenopausal symptoms, discuss the etiologies, diagnosis and management of abnormal uterine bleeding, of galactorrhea, discuss the various conditions causing hyperandrogenic manifestations and the current concept of evaluating endocrinology aspects of hirsutism and virilization in the female.

3. Describe the control mechanisms in the differentiation of the gonad, internal, and external genital organs, and name various sex hormones (natural and synthetic, estrogens, progesterone, and androgens) and describe the basic pathology of the hypothalamic-pituitary-ovarian axis.

4. Demonstrate basic knowledge of altered structure and function (pathology and pathophysiology) of the body and its major organ systems that are seen in various obstetric and gynecologic conditions.

5. Discuss the diagnosis and management of intersexual problems and hypogonadism, identifying hormonal profile in the various clinical conditions.

6. Demonstrate knowledge about established and evolving basic and clinical biomedical sciences, including epidemiology and social/behavioral sciences and their application to patient care and identify the epidemiological aspects of venereal diseases and other sexually transmitted diseases (STDs).

**C. Student will demonstrate knowledge about family planning and control of fertility. Student will be able to:**

1. Describe the process of fertilization and implantation, as well as demographic aspects of population control.

2. Discuss the basic aspects of reproduction; describe the etiology and evaluation of fertility, including reproductive endocrinology; describe the etiology and evaluation of infertility, define infertility; describe the psychological impact of infertility and the most common causes of male and female infertility; describe the treatment of these forms of infertility; explain polycystic ovarian syndrome (PCOS) explain how to interpret semen analysis and outline the basic steps of evaluating and managing the infertile couple.

3. Demonstrate a thorough understanding of contraception, including sterilization and abortion and counsel patients on various methods of contraception, their effectiveness and the risks associated with each of these methods: OCPs, emergency contraception, patches, rings, intrauterine device, diaphragm, foam, condom, rhythm, and male and female surgical sterilization.

4. Demonstrate knowledge of preconception care and preconceptual counseling including the impact of genetics, medical conditions, and environmental factors on maternal health and fetal development.

5. Explain the following methods of inducing pregnancy and their appropriate application: preimplantation genetic diagnosis (PGD), in vitro fertilization and embryo transfer, ICSI (intracytoplasmic sperm injection), blastocyst transfer of embryos and list the chief complaints a patient with endometriosis may have and the differential diagnosis and management.

**D. The student will be able to:**

1. Describe the pathophysiology, diagnosis, and management of common disorders and conditions that specifically or disproportionately affect women, or that present differently in women, including: vaginitis, urinary tract infections, salpingitis and STIs, fibroids, incontinence, abnormal PAP smears, acute abdomen, breast disease, vaginal/vulvar disorders, infertility, abnormal uterine bleeding, reproductive cancers, etc.

2. Develop an appropriate diagnostic plan and treatment for patients with common OB/Gyn conditions: routine prenatal care, maternal physiological changes in pregnancy, normal...
The student will recognize his/her role as a leader and advocate for women and:

1. Will apply recommended prevention strategies to women throughout their life span: mammogram, bone density, Pap tests, STI evaluation, screening for reproductive cancers, identification of the risk factors for cervical neoplasia, and cancer
2. Will exhibit the appropriate method in counseling patients regarding the effects of substance abuse on pregnancy, the impact of medications and environmental hazards on pregnancy, the need for immunizations and the possible side effects on pregnancy, and the effect of pregnancy on common diagnostic studies.
3. List and discuss the maternal physiologic anatomic changes associated with pregnancy (1st trimester: cardiovascular, 2nd trimester: hematologic, 3rd trimester: gastrointestinal); describe the significant changes in the reproductive organs, cardiopulmonary and renal functions, gastrointestinal tract, during and after pregnancy and describe the structural and functioning changes of myometrial activity during pregnancy and changes on cervix, breast and other organs.
4. Explain the normal physiologic changes of pregnancy including the interpretation of common diagnostic studies.
5. Describe the correlation between fetal, placental, and maternal compartments.
6. List the signs and symptoms of labor, define and evaluate the various stages of labor, interpret the progress of labor in order to conclude if it is functional, interpret the etiologic factors in dysfunctional labor, list the different methods of delivering an infant (spontaneous delivery, forceps, breech extraction, Cesarean section) and the advantages of performing an episiotomy, describe the steps of vaginal delivery, describe the evaluation of common puerperal complications, define associated terms, i.e. effacement, station, engagement, descent, and rotation.
7. Recognize abnormalities of labor (premature, ineffective, cephalo-pelvic disproportion).
8. Describe the immediate care of the newborn at delivery, pathophysiological aspects of fetal respiration and asphyxia and the emergency management of the newborn and obtain an APGAR score and explain its significance.
9. Describe the mechanisms of pain during labor; the indication and the methods for pain relief (paracervical block and other regional anesthesia and analgesia) and their effects on the fetus and neonates.
10. Understand the meaning and significance of common obstetrical terms such as: episiotomy, cesarean section, multiparity, nulliparous, retroverted/retroflexed, ectopic pregnancy, amniocentesis, and sonography of uterus/adnexa.

The student will be able to:

1. Explain fetal circulation, describe the functional anatomic structure of the placenta, the transport mechanisms for gas exchange and important nutrients, and fetal mechanisms for the production of amniotic fluid.
2. Educate patient regarding signs of labor, childbirth, maternal nutrition, and hygiene.
3. Estimate the date of confinement by dates and by examination.
4. Demonstrate knowledge of postpartum care of the mother and newborn; be able to evaluate and manage the postpartum patient; explain mechanisms for lactation and hormonal changes during the postpartum in relation to the time of resumption of ovulation.
5. Assess fetal growth and maturation by history and physical examination and interpret steroid assays, as well as analysis of amniotic fluid, ultrasound scanning, and oxytocin challenge test as an indicator of fetal status.
6. Demonstrate knowledge in the implications, diagnosis, and primary or initial management and referral of the following common obstetrical problems/diagnosis and be able to identify these entities through history and physical examination skills in emesis gravidarum, varicostities, hemorrhoids, heartburn, low back pain, anemia, urinary tract infection, Braxton-Hicks contractions, fatigue, hyperemesis gravidarum, diabetes mellitus, premature rupture of membranes, Rh incompatibility, placenta abrupta, thrombophlebitis, pre-eclampsia/eclampsia, trimester bleeding, placenta previa.

The student will be able to:

1. Describe common problems in OB/GYN: Recognize and discuss management of at least the following medical and surgical conditions complications in pregnancy: anemia, preeclampsia/eclampsia, diabetes mellitus, gestational diabetes, chronic hypertension, urinary tract disorders, pelvic infection and infectious diseases, including: herpes, rubella, group B streptococcus, HIV, toxoplasmosis, CMV, HPV, varicella and parovirus and describe the clinical presentation, diagnosis and management of the following STIs: gonorrhea, chlamydia, HSV, HPV, Hepatitis B, understand cardiac disease, asthma, alcohol, tobacco and substance abuse, surgical abdomen including appendicitis, postpartum hemorrhage, first trimester bleeding with a differential diagnosis for first trimester vaginal bleeding, to differentiate the types of spontaneous abortion and discuss management of first trimester loss.
The student will be able to:

1. Discuss the importance of prenatal care and the procedure for following pregnant women and describe the nutritional requirements, the content of prenatal education programs, and the programs of educated childbirth.


3. Describe various factors which influence the occurrence of multiple gestations, the differentiation of monozygotic and dizygotic twins, the diagnosis of multiple gestation, and the management of multiple pregnancies.

4. Discuss the concept of premalignant and malignant lesions of the cervix.

5. Outline the epidemiology aspects of the uterine cancer including adenocarcinoma of the endometrium as well as the leiomyosarcoma.

6. Discuss clinical symptoms and findings of ovarian neoplasia, the staging of the ovarian cancer, and the incidence, prognosis, and management of different ovarian malignancies.

7. Discuss the incidence and epidemiology statistics of vulvar-vaginal cancer.

8. Define the hydatidiform mole, chorio-adenoma destruens, and chorio-carcinoma.

9. Describe common breast conditions and outline the evaluation of breast complaints.

10. List the risk factors, signs, and symptoms of endometrial carcinoma.

11. Compare the characteristics of functional cysts, benign ovarian neoplasm, and ovarian malignancies.

L. The student will be able to:

1. Describe the common surgical procedures and their indications such as: D&C, biopsies of various organs, laparoscopy and operations for pelvic relaxation and urinary stress incontinence, vaginal and abdominal hysterectomies and other procedures involving the fallopian tubes and ovaries.

M. The student will be able to:

1. Demonstrate knowledge of breast health and pregnancy, list the normal physiologic and anatomic changes of the breast during pregnancy and the postpartum periods and list the reasons why breast feeding should be encouraged.

2. Demonstrate the performance of a comprehensive breast exam.

3. Discuss diagnostic approach to a woman with the chief complaint of breast mass, nipple discharge, or breast pain.

4. Describe common breast conditions and outline the evaluation of breast complaints.

N. The student will be able to:

1. Describe gynecologic malignancies including risk factors, signs and symptoms, and initial evaluation. Identify the risk factors for cervical neoplasia and cancer.

2. Describe the initial management of a patient with an abnormal Pap smear.

3. List the risk factors, signs, and symptoms of endometrial carcinoma.

4. Compare the characteristics of functional cysts, benign ovarian neoplasm, and ovarian malignancies.

5. Describe the basic epidemiology of malignancy in female population, discussing the methods and skills of gynecologic cancer detection.

6. Discuss the concept of premalignant and malignant lesions of the cervix.

7. Outline the epidemiology aspects of the uterine cancer including adenocarcinoma of the endometrium as well as the leiomyosarcoma.

8. Discuss clinical symptoms and findings of ovarian neoplasia, the staging of the ovarian cancer, and the incidence, prognosis, and management of different ovarian malignancies.

9. Discuss the incidence and epidemiology statistics of vulvar-vaginal cancer.

10. Define the hydatidiform mole, chorio-adenoma destruens, and chorio-carcinoma.

11. Describe the basics of surgical therapy, chemotherapy, and the immunology aspects of cancer, identifying advantages, disadvantages, and possible complications of each form of therapy.

O. The student will provide a preliminary assessment of patients with sexual concerns and be able to:
1. Identify patients at increased risk for sexual abuse and/or domestic violence, list the components of a history on a sexual assault victim (child, adult, and acquaintance rape).

2. Explain the role and contribution of each member of the team who cares for the patient.

3. Address issues of population health: demonstrate to an attending and classmates the ability to counsel a patient on domestic abuse/Violence and prevention of sexually transmitted infections and demonstrate the ability to provide non-directive counseling to patients surrounding pregnancy options.

R. Students will investigate and evaluate their patient care practices by:

1. Appraisal and assimilation of scientific evidence

2. Using evidence-based approaches, organizing and discussing literature and demonstrating the use of information technology

3. Practicing cost-effective health care and resource allocation that does not compromise quality of care

4. Demonstrating awareness of social and community issues related to Ob/Gyn

5. Providing patient care that is compassionate, appropriate, and effective

6. Recognizing their limitations and asking for help when needed

7. Constantly self-evaluating regarding themselves and their academic and clinical performance; developing plans and identifying strategies for personal improvement and recognizing how the application of new learning can be used to improve patient care and demonstrate a commitment to life-long learning

8. Students must demonstrate a commitment to carrying out professional responsibilities, adherence to ethical principles, and sensitivity to a diverse patient population.

Q. Student will demonstrate knowledge of medical treatment: of menstrual disorders, female and male infertility, prescribing for problems during first and second trimester of pregnancy, drugs for medical termination of pregnancy, drugs used for endocrinological disorders affecting gynecological health, medical management of various benign uterine pathologies, painful gynecological conditions (including endometriosis), for genital infections and sepsis, vulvovaginal and urogynecological problems, for menopausal problems, prescribing contraception, basic cancer therapies, drugs used in preoperative preparation, wound closure, postoperative care, back-up use of hormones, and using drugs in pregnancy.

**Skills**

A. Student will demonstrate following clinical procedures skills:

1. Take a complete history, to include obstetrical and gynecological information.

2. Perform a complete physical examination, to include: breasts, pelvis, and rectum.

3. Perform an interim obstetrical exam, to include fetal growth and position, and assessment of the clinical pelvimetry.

4. Collect a Papanicolaou smear, Fern and Nitrazine test, perform and evaluate a wet mount and KOH, collect and interpret a cervical cytology, obtain cervical cultures, NSVD (with minimal intervention).

5. Perform venipuncture.

6. Assist in obstetrical and gynecological surgeries and deliveries.

   g. Students will demonstrate consistent performance of sterile technique, including successful gowning, gloving, and maintenance of sterile operative field.

   h. Skills required to order and interpret labs and radiologic studies.

9. Demonstrate specific motor skills and aptitudes relative to the delivery of an infant and care of the newborn in the delivery room and in different types of delivery systems, i.e. Clinic, Labor and Delivery, Inpatient setting, OR, etc.

10. Perform clinical pelvimetry, and an evaluation of the pregnant uterus and fetus in utero.

11. Perform a labor cervical exam.

12. Insert Foley catheters.


14. Perform surgical field prep (abdominal or vaginal).

B. Student will observe the following:

• Clinical course of labor

• Operative vaginal delivery

• Perineal laceration repair

• Cesarean delivery

• Post-partum bilateral tubal ligation

• Total abdominal hysterectomy

• Unilateral/bilateral salpingo-oophorectomy

• Ovarian cystectomy

• Ectopic pregnancy surgery (list procedure)

• Incontinence/prolapse surgery (abdominal)

• Diagnostic laparoscopy

• Laparoscopic tubal ligation

• Laparoscopic cystectomy/ovophorectomy

• Laparoscopic hysterectomy

• Total vaginal hysterectomy

• Cystoscopy

• Diagnostic or operative hysteroscopy

• Endometrial biopsy (office procedure)

• Dilation and curettage
ATTITUDES/BEHAVIOR

C. After completing the obstetrics and Gynecology curriculum, the student will be able to:

1. Demonstrate a sensitivity to understand and relate to the emotional and social background of patients.

2. Demonstrate appropriate professional behavior for the Ob-Gyn setting.

3. Relate and perform professionally in a working situation with other members of the Health care team.

4. Demonstrate a willingness to ask for help from other people and resources for patient care when appropriate.

5. Demonstrate openness to recognizing limitations by using resource referrals and consultation with supervising preceptor when appropriate.

6. Demonstrate openness to receiving constructive criticism.

7. Show a general concern for patients as demonstrated by the thoroughness of monitoring patients and attitudes toward record keeping.

8. Demonstrate that he/she has done independent outside reading concerning problems seen.


10. Perform duties within a professional comportment comprising such areas as attendance, dress code, and general demeanor.

EXPOSURE TO CATEGORIES OF PATIENTS

In addition to the medical conditions listed above, during the clerkship, students must also see the following categories of patients.

1. Normal pregnancy

2. New acute condition of an undifferentiated problem, with emphasis on diagnosis

3. Chronic condition with emphasis on management

4. Exacerbation of a chronic condition with emphasis on management

5. Asymptomatic patient with emphasis on preventive care and screening

6. Patient with limited access to care

Any gaps in the terms of missing conditions can be remedied by a simulated experience: standardized patient, peer, an online or paper case or in another rotation.

Never forget that the basic responsibility for addressing the objectives of the course rests with the student.
PSYCHIATRY

INTRODUCTION

Psychiatry is the medical specialty devoted to the study and treatment of mental disorders, which include various affective, behavioral, cognitive and perceptual disorders. An important goal for this clerkship is to increase the student’s comfort level in working with individuals with psychiatric illness.

Students achieve the competencies in the field in psychiatry primarily through clinical experience (both outpatient and inpatient), through supervised patient encounters, clinical teaching and a structured didactic program. Learning strategies depend upon the training institution, but it is expected that the students’ clinical experience is supplemented by directed readings, discussions with preceptors, completion of required written reports, and other learning tools. Students will be required to take call, attend conferences, and read suggested literature. Participation in research is encouraged during this clerkship as well.

A. While working in the ambulatory setting, students will encounter new or established patients and will have several tasks:

1. In a new patient to complete a focused physical and detailed psychiatric interview or to address a specific complaint
2. In an established patient to perform and suggest an regular check-up or to address a specific complaint
3. Hospital follow-up

B. While working in the hospital, students will:

1. Perform complete psychiatric history and physicals
2. Develop a problem list and management plan
3. Write admission and progress notes for the patient’s charts
4. Write orders co-signed by a resident or attending
5. Orally present patients to a team and attending
6. Observe neuropsychological and psychiatric tests
7. Observe psychotherapeutic sessions.

Before starting this clerkship it is strongly recommended that students review relevant concepts of brain circuits, neurotransmitters, genetics, and brain development as well as environmental factors and individual experiences that may influence human behavior and psychic status.

GENERAL GOALS

The main goal is students to develop the responsibility and autonomy as well as the ability to use their knowledge, skills and personal, social and/or methodological abilities, both in work and study situations and in professional and personal development.

During their clerkships students will get the opportunity to transfer their knowledge of the basic sciences into the clinical practice, of pathophysiological, biochemical, genetic, molecular and cellular mechanisms, as well as genetic, developmental, toxic-metabolic, infectious, autoimmune, degenerative, neoplastic, traumatic and behavioral causes and the non-biological determinants of poor health in the diagnostics and treatment of relevant diseases/conditions.

They will acquire the specific clinical skills, knowledge, and professional behaviors necessary to evaluate and care for adult patients with growing independence guided by careful and consistent supervision from residents and attending physicians. Specific goals, objectives and the instructional strategies depend upon the training institution.

Students will apply principles of evidence-based medicine, medical ethics, and cost-effectiveness to decisions regarding diagnosis, therapeutics, and prognosis. They will utilize electronic databases and other resources for obtaining biomedical information that is useful and relevant for clinical problem solving and decision-making. They will practice critical analysis of the original biomedical data and secondary data in the medical literature with special emphasis on the evaluation of the appropriateness of methodological design, on statistical analysis and data interpretation, on formulating accurate hypotheses about the causes and solutions of medical problems. The purpose of this part of training is to obtain experience in developing strategies for exploring medical problems and to achieve reasoned conclusions in accordance with best practices and literature. The familiarity with evidence based medicine will help them to become capable to use it as a routine practice in further professional and scientific work and self-development.

Students will get the opportunity to perform core technical procedures and participate in all other activities relevant to the training process.

Students will get the opportunity to participate in research projects and to present clinical and scientific information clearly and cogently, both orally and in writing, to colleagues and other health professionals.

OBJECTIVES

Besides general goals and objectives listed in this Handbook, the general goal of this clerkship is to provide a thorough introduction to psychiatry and build students knowledge, skills and attitudes required to evaluate the mental and emotional functioning of an individual in a culturally competent manner. Depending on the institution, students will obtain both theoretical and practical experience in common psychiatric problems/diseases:

C. Addiction psychiatry: evaluation and treatment of individuals with alcohol, drug, or other substance-related disorders, and of individuals with dual diagnosis of substance-related and other psychiatric disorders.

D. Biological psychiatry: understanding mental disorders in terms of the biological function of the nervous system.

E. Childhood and adolescent psychiatry – always includes work with their families.

F. Community psychiatry: in the settings of community mental health services.

G. Cross-cultural psychiatry: dealing with the cultural and ethnic context of mental disorder and psychiatric services.
H. Eating disorders: anorexia nervosa, bulimia nervosa, binge eating disorder, eating disorders not otherwise specified, certain feeding disorders such as pica etc.

I. Emergency psychiatry; the clinical application of psychiatry in emergency settings.

J. Forensic psychiatry: the connection between the law and psychiatry.

K. Geriatric psychiatry: dealing with the study, prevention, and treatment of mental disorders in the elderly.

L. Global Mental Health: improving mental health and achieving equity in mental health for all people worldwide.

M. Liaison psychiatry: connects other medical specialties with psychiatry.

N. Military, occupational and other special aspects of psychiatry and mental disorders within the specific context.

O. Neuropsychiatry: mental disorders caused by the diseases of the nervous system.

P. Social psychiatry: dealing with the interpersonal and cultural context of mental disorder and mental health and wellness.

Q. Related topics: pain medicine, palliative medicine, sleep etc.

Specific objectives (knowledge, skills, attitude/behavior)

A. Knowledge

By the end of this course, students will be able to demonstrate:

a. Initiation of the interview

b. History taking

c. Obtaining mental state

d. Systematic approach to the evaluation and differential diagnosis of patients who present with common psychiatric symptoms

e. Performing a thorough mental status exam, ideally integrating it into the interview.

f. Obtaining data from collateral sources where indicated.

g. Performing a reliable psychiatric examination in selected psychiatric conditions.

h. Explaining and interpretation of the medical literature pertinent to specific issues.

i. Obtaining the information via the medical interview including both objective and subjective information.

j. Synthesizing data from all sources into a coherent assessment utilizing the biopsychosocial model.

k. Developing of complete differential diagnoses.

l. Constructing a management plan for their patients.

m. Recording effectively clinical observations.

2. Knowledge about the major psychiatric illnesses and disorders in patients of different ages (psychotic disorders, mood disorders, anxiety disorders, substance-related disorders, cognitive disorders and personality disorders) together with the ability to differentiate between them

3. Knowledge about the specific diagnostic criteria for common psychiatric disorders which are likely to be encountered by non-psychiatric physicians.

4. Knowledge about the etiology (including biologic, sociocultural, intrapsychic and interpersonal causes), clinical picture and treatment of psychotic disorder, mood disorder, anxiety disorder, substance-related disorder, cognitive disorder, personality disorder etc.

5. Knowledge and understanding of the diagnostic classification system used in psychiatry (DSM-IV).

6. Understanding the broad range of psychiatric treatments (biological, psychological and social) and specific knowledge of treatments which are likely to be used by non-psychiatric physicians (e.g. pharmacotherapy for anxiety and depressive disorders).

7. Knowledge and understanding the process of civil commitment.

8. Knowledge about major therapeutics in psychiatry: Indications and side effects of one or more classes of medications & psychiatric pharmacologic categories, that include: atypical antipsychotics; selective serotonin reuptake inhibitors; novel antidepressants; tricyclic antidepressants; mood stabilizers; benzodiazepines and anti-EPS agents.

9. Knowledge about other relevant non pharmacological psychiatric treatments: different psychotherapies, psychoeducation, social and community interventions, electroshocks etc.

10. Knowledge, understanding, and the ability to recognize medical or substance induced causes of psychiatric signs and symptoms.

B. Skills

By the end of this clerkship students are expected to demonstrate:

1. The ability to ask in a sensitive manner about the following: suicide and suicidal ideation, homicidal ideation, abuse, drug, and alcohol habits.

2. Analytical skills, the ability to

a. Analyze data from the psychiatric interview

b. Explaining a mental status exam

c. Writing a concise, coherent psychiatric evaluation consisting of history, mental status exam, diagnosis, and recommendations for further treatment and for evaluation

d. Recognizing persons who are having significant mental difficulties

e. Recognizing how your own feelings and attitudes affect your ability to evaluate and treat people in distress

f. Learning ways in which such attitudes and feelings can be dealt with and be utilized to help you provide better patient care

g. Learning basic treatment principals to be used in following patients with psychiatric troubles
C. Attitude/Behavior

By the end of this clerkship, the student will:

1. Develop a reduction in discomfort working with patients with psychiatric illness.

By the end of the clerkship, the student will demonstrate:

1. The ability to work effectively as part of a multidisciplinary mental treatment team.
2. The ability to reflect on the bioethical clinical issues.
3. The ability to recognize the ambiguity and uncertainty in biomedical information, clinical situations, and medical decision-making.
4. The ability to recognize and accept the limits in his/her medical knowledge and skills and an accompanying willingness both to seek neurological consultation and to defer to more experienced individuals when indicated.
5. Honesty and integrity in all interactions and activities with patients, families, medical colleagues and others.
6. Maintaining a professional demeanor in his/her work, including demonstrating an attitude that values timely attendance, punctuality, and reliability.
7. Understanding of the experience of individuals who suffer from mental illness and demonstrate behaviors reflecting that understanding (i.e. empathy).
8. Behaviors that demonstrate integrity (e.g. reliability, responsibility).
9. Understanding how their own life experiences influence their reactions and interactions with their patients.
10. Understanding of appropriate boundaries in the physician/patient relationship.

B. Students will describe the epidemiology, etiology, clinical manifestations, pathology, pathophysiology and the spectrum of pharmacological and other treatments, supports, and preventive measures in some of the following important psychiatric conditions, particularly potential emergencies:

- delirium
- malignant neuroleptic syndrome
- suicide
- substance-related emergencies
- violence
- Exposure to patient/conditions

In addition to the medical conditions listed above, during the clerkship, students must also see the following categories of patients:

1. New acute condition of an undifferentiated problem, with emphasis on diagnosis
2. Chronic condition with emphasis on management
3. Exacerbation of a chronic condition with emphasis on management
4. Patient with limited access to care
5. Patient at risk

Any gaps in the terms of missing conditions can be remedied by a simulated experience: standardized patient, peer, an online or paper case or in another rotation.

Never forget that the basic responsibility for addressing the objectives of the course rests with the students.

Patients/Conditions

A. Students will describe a systematic approach to the evaluation and differential diagnosis of selected patients with (at least):

- bipolar disorder
- major depression
- schizophrenia
- organic mental disorder
- personality disorder
- anxiety
- mood disorders
- substance abuse/dependence
- abuse
- violence
A. Supervise aspects of the student’s clinical education in accordance with stated school objectives and program requirements. Learning objectives are provided to structure the student’s readings.

B. Ensure that students attend all required lectures, complete readings, and facilitate the students’ exposure to relevant clinical experiences.

C. Review the students’ patient care log book every one to two weeks.

D. Meet/communicate with the SJSM Office of the Dean of Clinical Affairs periodically to review and evaluate the clinical program.

E. Provide an evaluation of each student’s performance in each rotation by completing the Saint James School of Medicine’s Clinical Medicine Evaluation Form. On completion of the rotation this form should be completed and sent directly to the Office of the Dean of Clinical Affairs.

F. Please ensure that you give clear instructions to students regarding whether or not you allow them to make entries in patients’ charts.

G. In case of any complaints or suggestions regarding students or the clinical program, please contact the Office of the Dean of Clinical Affairs at the following address:

1480 Renaissance Dr. Suite 300
Park Ridge, IL 60068
Ph. 847-375-0543
Fax. 847-298-2539
Email: clinical@sjsm.org
Core Clinical Science Curriculum

(Suggested Experiences)

For each of the core rotations, we have provided a list of suggested experiences. It is expected that the student will have been assigned at least one patient displaying one or more of these medical conditions during their rotation with you.

General Surgery (12 weeks)

(Suggested Experiences)
1. Acute abdominal pain
2. Abdominal-thoracic trauma
3. Shock
4. Neoplasm of chest
5. Neoplasm of gastrointestinal tract
6. Hernia repair
7. Coronary/valvular heart disease
8. Burn injury
9. Peripheral arterial disease
10. Head injury
11. Biliary tract disease
12. Nutritional needs of surgical patients
13. Wound care

Internal Medicine (12 weeks)

(Suggested experiences)
1. Ischemic Heart Disease
2. Hypertension
3. Chronic Obstruction Pulmonary Disease
4. Osteo and rheumatoid arthritis
5. Anemia (micro and macrocytic)
6. Diabetes Mellitus, Type 1 and 2
7. Renal insufficiency
8. Neoplasms
9. Fever of uncertain etiology
10. Cerebrovascular accident
11. Hepato-biliary disease
12. Gastritis, PUD I
13. Acquired Immune Deficiency Syndrome
14. Infectious diseases

Family Practice (6 weeks)

(Suggested Experiences)

Drawn from areas of General Surgery, Internal Medicine, Obstetrics and Gynecology, Pediatrics, and Psychiatry.

Pediatrics (6 weeks)

(Suggested Experiences)

1. Normal growth & development
2. Well baby examination
3. Care of the pre-mature infant
4. Asthma
5. GI Disease
6. Infections (esp. neonatal and infancy)
7. Cardiac/Hematological disorders
8. Child Abuse
9. Immunization protocols

Psychiatry (6 weeks)

(Suggested experiences)

1. Schizophrenia (new onset/chronic)
2. Anxiety – phobias and panic disorder
3. Delirium/Dementia
4. Acute psychosis/psychiatric emergencies
5. Chemical dependence (drugs/alcohol)
6. Mood disorders
7. Somatoform disorders
8. Personality disorders (Cluster B)
9. Mental status examination

Obgyn (6 weeks)

(Suggested experiences)

1. Normal gynecological exam (includes breast/pap smear)
2. Normal term pregnancy and vaginal delivery
3. Medical complications of pregnancy
4. Abnormal obstetrics
5. Sexually transmitted diseases
6. Gynecologic neoplasm
7. Disorders of menstruation
8. Infertility – Sterility
9. AIDS/substance abuse in pregnancy
Clinical Clerkship / Rotation Grading Guidelines

1. The student is evaluated on a scale of 1-10 in ten different categories of performance. With “01” being the lowest and “10” being the highest obtainable score in each category.

2. A grade below “07” is a failing grade. Please provide additional comments, for grades below “07” and above “09”.

3. Please use the numerical grading guidelines below for each category.

After completion, please fax evaluation form to the Office of the Dean of Clinical Affairs and mail original to:

Dean of Clinical Affairs
1480 Renaissance Dr. Suite 300
Park Ridge | IL 60068.
Ph. 847-375-0543 | Fax 847-298-2539

Clinical Science Evaluation Parameters

A. Knowledge level in the area of current rotation

07: The student demonstrates limited understanding of pathophysiology and disease mechanism. The student has difficulty discussing a particular patient and integrating basic science concepts and clinical data.

08: The student has at least some understanding of the pathophysiological disease process and is able to discuss major factors that are impinging on a particular patient.

09: The student demonstrates a clear understanding of disease process on several types of patients and is readily able to integrate the basic science concepts with clinical data.

B. Diagnosis

07: The student uses vague terminology applying to the disease process, and has difficulty defining these terms or equates symptoms with diagnosis.

08: The student is able to distinguish diagnostic categories for the most common disease processes and provides at least half the diagnostic criteria for a given diagnosis. The student can also formulate additional differential diagnoses.

09: The student is able to distinguish diagnostic categories and provide the needed diagnostic criteria to support all proposed diagnoses. The student can discuss the differential diagnoses of common disorders in depth with little or no preparation.

C. Therapeutics

07: The student knows only a global concept of pharmacological treatment. Student cannot explain the rationale for choosing a particular treatment modality.

08: The student can discuss specific treatment modalities and knows major classes of pharmacologic medication. The student can discuss sub-types of at least one modality, being able to outline the typical method of use, indications, doses range, and what is considered an adequate trial.

09: The student can discuss sub-types of all major therapeutic treatment modalities in great detail. The student can also discuss which types of treatment are most useful for a given patient.

D. Patient Interaction skills

07: By the end of the rotation, the student continues to be somewhat awkward, fails to put patients at ease, asks questions in a mechanical or “interrogating” manner and fails to follow-up on expected leads.

08: By the end of the rotation, the student has learned to put patients at ease, asks open-ended questions at times, and is able to obtain most necessary information within a reasonable time period.

09: By the end of the rotation, the student has learned to put most patients at ease and maintain a smooth and flowing conversational interchange. The student can flexibly change style or line of questioning in response to the patient’s needs or can adapt their style easily for different types of patients.

E. Data collection and analysis

07: The student shows limited knowledge of his or her patients and relies on the resident or attending physician’s work up. The student seldom seeks additional information or there are information gaps in the review of systems and history and physical examination. Oral presentation may be disorganized.

08: The student relies on the resident work up, but also uses his or her own interview. The student also reads old charts and contacts outside sources with encouragement. The student can present findings on request, but may need assistance to select what is necessary or pertinent data. Oral presentations are adequate.

09: The student obtains information from multiple sources with minimal encouragement. The student presents findings precisely such that other team members can use the information easily in treatment and discharge planning. Oral presentations are thorough and well organized.

F. Chart Work/Student Log book

07: The student is occasionally careless about charting and may use stereotyped phrases or jargon. The student may also write non-objective notes and express his or her own attitudes about a patient’s condition rather than using objective criteria. The student needs to be prompted to write progress notes.

08: The student writes all progress notes in a timely fashion and keeps comments concise and objective. The student writes notes daily without prompting.

09: The student writes very accurate and descriptive notes which give a clear picture of the treatment goals and the patient’s progress.
G. Treatment and Implementation

07: The student takes a passive role in treatment. The student carries out the directions of the resident or attending physician, but assumes no overall direction of the patient’s care. The student may get over-involved, and have difficulty setting boundaries (seeing him or herself as the patient’s friend, confidant, or advocate against the physician or staff).

08: The student takes a moderately active role in treatment. The student seeks out the patient for regular encounters without encouragement. The student asks for direction and occasionally has suggestions for the treatment team to consider.

09: The student takes an active role in developing and carrying out the treatment plan. The student monitors progress daily and reports to the team. The student is available in crisis and consults with the team.

H. Rapport

07: The student maintains only a marginal relationship with patients and staff. The student has little empathy for the patients or sees them only as diagnoses.

08: The student maintains a pleasant relationship with both patients and staff. The student is accepted as an important member of the treatment team.

09: The student is clearly perceived as a valuable member of the treatment team by both patients and staff. The student is asked about by the patients when absent and clearly empathizes with patients.

I. Responsibility

07: The student is frequently absent or late to scheduled activities or is sometimes hard to find. The student may not carry out his or her clinical duties in an expected manner.

08: The student is regular in attendance, works cheerfully as directed and carries out assigned duties in a timely manner. The student will take on extra responsibility if so asked.

09: The student is totally dependable and does more than is asked. The student takes the initiative to make sure that things get done. The student may stay overtime when necessary.

J. Interest

07: The student shows limited enthusiasm for the rotation, does only what is required, and shows little interest in learning more.

08: The student shows active interest, reads about his or her patients, and asks, pertinent questions.

09: The student shows more than average interest. He or she may read outside articles or books and look up topics in medical literature. The student does extra work without encouragement.
After completing the Basic Sciences and prior to the completion of the Clinical Sciences all students are required to demonstrate proficiency in medical research. To do this they must engage in some form of research activity and document this in the form of a thesis paper. This is a requirement for graduating from the MD program.  

Research experience is viewed favorably during the residency application process and will serve to considerably strengthen the student's residency application.

Research Activity

The research can be in the areas of basic, clinical or applied medical science. The research must be conducted under the supervision of one of the preceptors during the clinical rotations, or a qualified person referred by them.

Type of Research

The research activity that the student engages in may be primary research which involves developing an experimental model and collecting data. Primary research can be experimental research or a clinical study, a clinical study in turn may be experimental or observational. The student may also engage in secondary research. This may be a systematic review, or meta-analysis of a specific area of medicine. This permits data from a number of different studies to be brought together allowing the results to be interpreted in the context of a given medical problem. The type of research selected by the student will depend on the opportunities which are available to the student during the clinical rotation experience and is usually a topic that the student is deeply interested in.

The Thesis Proposal: Template

**Proposed Title:** A concise title should be assigned. This may change as the project progresses.

**Author:** Include names of all authors, institutions, departments.

**Preceptor/Guide:** Include names and contact information of all supervising preceptors and their primary institutional affiliation, as well as contact information. This is/are the person(s) whose approval and signature will be required in order to consider the final thesis complete.

**Description of the work:** Include why the paper is important. Answer the following questions. What question you are trying to answer? What do you intend to learn? Why does it matter? Point out at least one significant implication. Give sufficient background information to understand the context, and explain the scope of the work and what you are trying to address.

**Review of Existing Literature:** Include information on similar or related research referencing at least 5-6 articles in peer reviewed journals.

**Methods:** Describe your procedure, materials, limitations, assumptions and validity. Include laboratory, radiological or special investigatory tools and analysis if applicable.

Expected Outcome: Document observations, statistics, tables, charts and graphs, range variations. Include negative and positive results.

Bibliography: Must be from legitimate sources preferably peer reviewed international journals and publications. References may be either in the MLA style or the author-date system as per the Chicago Manual of Style.

Please note that this is a Thesis Proposal and should briefly describe the scope of the work that you intend to undertake over the next few months. It is expected that there will be certain deviations as the project progresses; however the major themes of the proposal should be maintained.

This proposal should be sent to the Office of the Dean of Clinical Affairs for approval prior to beginning the project. Questions may be directed to the Clinical Department at clinical@sjsm.org

Detailed Guidelines for Student's Research

After completing the Basic Sciences and prior to the completion of the Clinical Sciences All students are required to demonstrate proficiency in medical research. To do this they must engage in some form of research activity and document this in the form of a thesis paper. This is a requirement for graduating from the MD program. Research experience is viewed favorably during the residency application process and will serve to considerably strengthen the student's residency application.

Submitting the Paper to Saint James School of Medicine

A. Organize all of your materials into a manuscript for submission.
   1. Cover letter.
   2. Title page.
   3. Abstract and key words.
   4. Text of paper (introduction, materials and methods, results, discussion, conclusions)
   5. Acknowledgements
   6. References
   7. Tables and figures
   8. Figure legends.

B. Proofread your manuscript several times
   1. Edit, edit, edit; pay attention to detail; minimize jargon.
   2. Check grammar, syntax and punctuation
   3. Delete redundant or excess words and sentences; revise for clarity and brevity.
   4. Remember to number pages in sequence
   5. Recheck all of calculations.

The paper may be submitted via email to the clinical coordinator clinical@sjsm.org, who will forward the paper to the Office of the Dean of Clinical Affairs.
KEY STEPS IN PERFORMING RESEARCH ARE:

Preparation and Planning
A. Define a topic
B. Conducting a literature search, students can start by using the resources at our library website (www.sjsm.org/library).
C. Form a research team (if needed) of compatible individuals and discuss authorship.

Methodology
A. State the problem or purpose of the study
B. Develop a hypothesis and a tentative explanation for the facts to be tested.
C. Study design
   1. Optimal study design
      a. Case-control study - uses two groups for study (with and without).
      b. Cohort studies = follow-up, prospective or incidence studies
         i. Longitudinal studies – subjects are followed over time to observe natural course.
         ii. Randomized controlled trials – for proving causation
      c. Historical prospective studies – use of past records to determine attribute or outcome.
      d. Cross-sectional studies – snapshot of a problem at a specific point in time; prevalence studies
   2. Biases
      Types of bias:
      a. Research specific types of bias and epidemiologic methods for your particular study design and topic,
      b. Selection bias – to avoid chooses a random sample from a stable population and get adequate follow-up
      c. Response bias – respondents differ systematically from non-respondents.
      d. Information, or measurement, bias – systematic difference among the measurements recorded in different study groups.
   3. Bias management:
      a. If bias occurs, try to measure its effects and adjust statistics accordingly.
      b. Use randomization and blinding to minimize bias
   4. Data collection form
      a. Make a data collection form
      b. Pilot test of a form.
      c. Test for reliability and validity
   5. End points and outcome
      a. Define optimal unit of analysis before your start data collection.
      b. Anticipate variables that could affect and/or distort data.
      c. Distinguish between independent and dependent variables
      d. Record the outcome with several variables
      e. Choose variables that can be quantified; measure variables as precisely as possible
   6. Determine sample size
   7. Prepare for your statistical analysis
      a. Consider how to measure each of variables.
      b. Organize variables into logical groups.
      c. Establish a valid control group (if needed).
      d. Determine a length of follow-up (if needed).

D. Data collection
   1. Obtain and record findings.
   2. Periodically monitor progress of the study to assure that protocol is being followed and data are complete and accurate.
   3. Monitor for potential problems and needs for revision of elements of the study design.
   4. Build database with statistical analysis in mind.
   5. Clean up the data in advance of analysis.

E. Analyze and interpret the data – keep an open mind and let the data reveal the truth.
   1. Define your analysis as univariate or multivariate

Elements of the Paper
A. A title – short, concise, easy to understand and gives an accurate idea as to methodology and content.
B. Abstract – the gateway to your paper, be sure it is well written.
   1. Demonstrates that findings are important and that the study was carefully done.
   2. States objectives clearly and concisely.
   3. Avoid having the same sentences in the abstract and in the body of the paper.
   4. Keep it short but do not exclude key information – briefly state your findings.
C. Introduction
   1. Go right to the essence of the problem or premise of the article in order to focus the reader’s attention.
   2. Provide adequate background information; use the literature for the enhancement.
   3. Define terms used in the title, as needed.
   4. Describe the purpose of the paper clearly and concisely.
D. Methods
1. Provide sample details and organize them in a meaningful way.
2. Describe all aspects of the study design and how the data was collected.
3. Describe data collection in detail (who, what, when, where, how, why?)
4. Define all your variables.
5. Statistical analysis
   a. Make it easy to understand and define what is statistically significant.
   b. Provide reproducible details of the statistical methods used in the data analysis.

E. Results
1. Present data in natural order.
2. Begin with the major positive findings; give negative findings at the end of the results section
3. Present statistical information using statistical terms appropriately.
4. Be sure that this section is comprehensive and convincing.
5. Acknowledge any problems with data (e.g., small sample size, limited follow-up time, etc.)
6. Present data for similar variables consistently.
7. Use well-designed tables, graphs, flow charts, histograms, figures
8. Be sure to cite and summarize these in the text.
   a. Simple and self-explanatory and not a repetition of the written text.
   b. Use consistent formats; clearly define all terms.
   c. Provide units for each variable.
   d. Include clearly written legends for each figure.

F. Discussion
1. Begin with the most important point.
2. Confine the discussion to the results and comparison of results with other data in the published literature.
3. Provide practical information and emphasize any new information that results provide.
4. Keep the discussion focused; avoid lengthy rambling discussions.
5. Discuss the implications of findings.
6. Consider other explanations for the results, if appropriate.
7. Discuss any limitations of the performed study.

G. Conclusions
1. Conclusions should be clear and strong.
2. Conclusions should be fully supported by the results presented.
3. Conclusions should be limited to boundaries of the study presented.
4. Describe any further research that should be considered, if applicable.

H. References
1. Try to use full-length articles from peer-reviewed journals
2. Make sure that all required information is complete and accurate.
3. Limit list to key citations; appropriate, recent or review references; do not use a long bibliography.
4. Appropriately cite references throughout the paper.
5. Refer to reference guidelines for targeted journal.
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