

INTERNAL MEDICINE
CLERKSHIP
SYLLABUS

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Internal Medicine Clerkship

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INTRODUCTION

Welcome to the Clerkship in Internal Medicine. Over the next twelve weeks you will have a variety of experiences in a variety of settings that will allow you to fully appreciate the scope of knowledge you will need to practice medicine. As a department we are here to help you achieve the goals set forth in the curriculum. Internists are detectives/diagnosticians. We strive to provide care for the patient not just the disease and we need to correlate tremendous amounts of information into a working assessment and plan.

We have a team of clerkship directors locally and nationally through Clerkship Directors in Internal Medicine (CDIM) that have developed curriculum that focuses on helping you achieve the core competencies set forth by the LCME.

We blend general inpatient wards, critical care unit and an ambulatory experience to maximize your exposure to the various aspects of health care of the adult. Preventative health is as important as knowing the disease entities.

Our faculty, staff and residents strive to provide a stimulating learning environment. We hope you enjoy your rotation and feel you are an integral part of the patient care team. If you are having any difficulties during your clerkship (professional or personal) we follow an open door policy and feel free to contact the faculty, Pam Vankrey, Dr. Bronander, or myself.

Sincerely,

Catherine Goring
Chair, Internal Medicine
UNSOM North

Dear Student,

I hope you are excited about your internal medicine clerkship here in Reno. Internal medicine is a specialty that focuses on the care of the adult patient. Internists, as the specialist is called, must have a broad knowledge base and be comfortable working with complicated patients often having multiple problems and on multiple medications. Internists can work in an outpatient clinic or the hospital or a combination of both. A large part of basic clinical knowledge will be taught through lectures and clinical experience. This is where you will learn fluids and electrolytes, ekg interpretation, basic radiology interpretation and key problem solving skills like the development of the differential diagnosis. You will work hard but you should be enthusiastic about this clerkship because the knowledge base needed for internal medicine will help you no matter what specialty you eventually choose.

Internal medicine is a stepping stone to multiple sub-specialties including cardiology, pulmonology /critical care, endocrinology, nephrology, rheumatology, infectious diseases, oncology/hematology and gastroenterology. I encourage you to become a student member of our national organization, The American College of Physicians (ACP). Student membership is free and includes free online subscription to various journals and a monthly newsletter written specifically for students. Check it out at www.acponline.org.

I encourage you to think of good questions to ask your residents and attending physicians during this clerkship, become an active participant on your team and read as much as you can. We look forward to having you as a part of our team!

See you on the wards,

Kirk A. Bronander, MD
Clerkship Coordinator, Internal Medicine-Northern Nevada

Recommended Study Resources

Texts

Cecil's Essentials of Medicine, 6th Edition – good for studying specific topics in IM*

Harrison's Principles of Internal Medicine – Classic general text book. If you know you will do IM or a subspecialty I would recommend purchasing.

Current Medical Diagnosis and Treatment – General text updated yearly, less pathophysiology.

Washington Manual of Medical Therapeutics – excellent handbook for inpatient problems

Ferri Manual – handbook written at student level explaining basic medicine and practical care of inpatients.

Internal Medicine ESSENTIALS for Clerkship Students – written by clerkship directors for students. Readable and at student level. *

Review Books

NMS Medicine – general review of IM*

First Aid for Medicine Clerkship – bullet points on many diseases, *should not be used as primary learning source*

Blue Prints Series Medicine – another review book option, *should not be used as a primary learning source*

Question Banks

MKSAP 3 for Students - loaned to you for the clerkship. This must be returned on the last day. Good shelf type questions.

On Line Resources

Available through Savitt Library

First Consult – Brief (but good) descriptions of disorders in a searchable database. Good for quickly looking something up on the wards.

AccessMedicine – library of online texts including *Harrison's* and *Current Dx and Tx*

STAT!Ref- multiple clinical texts and tools available online. Login and password available from Savitt / UNSOM.

Journal database – Free access to multiple journals.

*UNR Bookstore has in stock.

Professionalism Expectations

What is professionalism? This is a fair question. In my opinion it is simply the application of morals and ethics to our profession. You can imagine that people differ on what is professional behavior. Here are some expectations I have of students on this rotation. Remember that it is not enough to have excellent knowledge and problem solving skill if you do not have moral character to go with it. You can fail this rotation by breeching professional expectations even if you ace the rest of the course!

- Honesty – in your interactions with other students, faculty, staff and patients act truthfully
- Integrity – Do what you know is right even if no one is looking.
- Patient confidentiality – always protect your pt by not discussing their case outside of the care team. Destroy documents with patient names. Do not take pictures of patients without permission and only for educational purposes.
- Duty – maintain appropriate doctor – patient relationships with patients. Go the extra mile for your patient. Take ownership of your patient’s care.
- Competence – strive for excellence in knowledge and skills.
- Dress – when polled most patients prefer doctors to dress conservatively. Your appearance is not about you, rather your appearance should serve the interest of your patients. If your dress is a distraction to them you will not be serving your patients.
 - Students should be well groomed and clean at all times. Beards and mustaches should be closely trimmed and neat in appearance.
 - Perfume and cologne are discouraged as many patients have allergies to strong scents.
 - Clothing should not be low cut or expose parts of the body inappropriately.
 - Undergarments should not be exposed.
 - Piercings should be hidden or discrete. Visible naval piercings are inappropriate.
 - Closed top shoes are to be worn at all times (OSHA mandate).
 - Scrubs should not be worn on this rotation since there is no overnight call.
 - You should wear your student white coat and name badge in all patient care activities. Patients and staff should be able to identify you as a student.
- Treat patients and families with dignity and respect.

GENERAL FORMAT

I. Clinical Rotations

A. Inpatient Internal Medicine

1. One third of the clerkship is at Renown Regional Medical Center which will provide you with an opportunity to participate in the care of patients with a wide variety of acute medical problems in an environment with rapid patient turnover.
2. One third of the clerkship will be at the VA Medical Center: approximately two weeks on the wards and two weeks in ICU. This will provide you with an opportunity to participate in the care of patients who are often older with many chronic diseases in addition to acute medical problems.
3. You will be on call with one of the members of your team and possibly a night float intern or resident an average of every 4th night until 10:00 PM during the inpatient rotation.

B. Outpatient internal medicine:

One third of the clerkship will be an ambulatory experience in general internal medicine and specialty clinics to provide you with exposure to ambulatory medicine. You will receive individual assignments.

II. Didactic Sessions:

Whatever rotation within internal medicine you are doing, you are expected to be at the following educational activities.

A. **NOON CONFERENCE:** Virtually every Monday through Friday there are conferences in Internal Medicine between 12:00 noon and 1:00 pm. These conferences cover a variety of topics. It is recommended you attend these conferences except for the Internal Medicine Board Review series which is specifically designed for categorical Internal Medicine Residents.

B. CORE CURRICULUM STUDENT TEACHING SESSIONS:

It is mandatory you attend all core curriculum teaching sessions, which have been specially designed by the Internal Medicine Faculty. They usually occur at 3:30 PM until 5 PM.

The team should release you for the core curriculum teaching sessions. If the student is prevented from attending these conferences by the faculty or residents, this should be brought to the attention of the clerkship coordinator.

III. Clerkship Director Meetings:

You will meet individually with the Department Clerkship Director at the sixth week to review your progress and to see how the rotation is going. You will also meet at the end of the rotation for an exit interview.

RESPONSIBILITIES

ABSENCES: THIS CLERKSHIP IS A MANDATORY CLERKSHIP AND YOU ARE EXPECTED TO BE PRESENT EVERYDAY EXCEPT FOR ILLNESS OR APPROVED RARE EVENTS (i.e. funeral of family member, childbirth, etc.) THESE EVENTS MUST BE DISCUSSED WITH AND APPROVED BY THE CLERKSHIP DIRECTOR AND EXCUSED ABSENCES AT HIS DISCRETION. UNLESS A STUDENT IS PRESENTING A POSTER OR RESEARCH PAPER, STUDENTS MAY NOT ATTEND SPECIALTY CONFERENCES (i.e. ACOG, ACS)

I. Inpatient (7-8 weeks)

- A. You will perform at least four (at least two for ICU) new patient workups per week (at least two-three patients per call) and will be expected to present these new patients on rounds to the attending physician. You will be expected to read on your patients' diseases and be prepared to discuss relevant clinical information.
- B. You should have an ongoing patient load of four to five patients to round on daily (two to four during the ICU rotation). The senior resident should be responsible for monitoring which patients the student continues to follow after admission. Ideally the student should follow each patient long enough to gain an appreciation for the evolution of the disease process
- C. It has been recommended to the attending physician that at least two H&Ps per rotation (month) be critiqued, and feedback given to the student. This will serve both the teaching and evaluation process. A copy of these H&Ps should be given to Pam van Krey to be filed in the student file.
- D. You will be expected to round on your patients daily before attending rounds. You should update all laboratory and radiographic data and will be expected to know the patient's vital signs and to have performed a focused assessment of that patient's condition. You will record daily progress notes utilizing a problem-oriented format. Your notes will be read, corrected and signed by either the senior resident or the attending on that team.
- E. You will attend morning report, working and teaching rounds. . You may also be expected to participate in morning report.
- F. During bedside rounds, you should be allowed and encouraged to perform focused physical examinations under the direct observation and guidance of the attending physician. These clinical encounters are mandatory (please see the section: **History and Physical Competency Log**).
- G. You will be assigned on-call duty approximately every 3rd or 4th day with your team. You will be actively engaged in the evaluation and work-up of new patients admitted to the team during that period.

1. You will be on call until 10:00 PM, with the last patient assigned for admission workup no later than 9:30 PM
 2. You are only to write H&P's on patients whom you worked up.
 3. You should be allowed to present the new patients on whom you have written H&P's. If you pick up a pt from night float you must get to know the pt well enough to present him or her to the team (i.e. reading the H&P by the night float is NOT acceptable).
 4. You should be given timely feedback by the attending or senior resident on each of your H&P's, allowing a chance to demonstrate assimilation of feedback and improvement throughout the rotation. The same kind of feedback should be given periodically on your progress notes.
- H. You will get one day off per weekend. You should arrange coverage of your patients with the other student and PGY I resident on the service. At the end of each rotation, you are off from 5:00 p.m. Friday until 7:00 a.m. Monday. During Holidays the student will follow the general guidelines of their individual team.

II. Outpatient (4 weeks)

- A. At the beginning of the rotation, each student will be given an assignment to the clinic where they will be working for the approximate four weeks of ambulatory medicine. These clinics include the University Health Systems (UHS) Clinics and several private physicians' clinics.
- B. You will be expected to perform an appropriate history and physical examination and present the case to the clinic preceptor. You are expected to read and learn about common medical problems that occur in the ambulatory settings.
- C. You are expected to report at 8 a.m. Monday through Friday to the ambulatory clinic. You will see patients until approximately noon.
- D. During the afternoon, you will be involved in a number of activities including Tuesday didactic sessions and the internal medicine core curriculum lectures. Free afternoons will be used for self-directed learning activities. There is no night call or weekend call during this rotation.
- E. During afternoons you can choose to participate in specialty clinics at UHS and VA. These clinics are not mandatory at this time, but I strongly encourage participation. Besides getting the insight in several subspecialties of medicine, you will have the opportunity to see very instructive clinical cases, and improve your physical examination skills.

3. Patient Encounter Log:

You must keep track of your inpatient and outpatient clinical encounters in your patient log using the e-value electronic log format. You can use a palm computer for entry or any computer with web access. An incomplete or absent log will result in an “incomplete” for the course and possibly a failing grade if the log cannot be reconstructed adequately.

4. History and Physical Competency Log:

During the Internal Medicine clerkship it is mandatory that you complete all the requirements stated in the “History and Physical Competency Log”, (see Appendix). These include several observed focused physical examinations and one full observed H&P. There is also a section on feedback and evaluation of written H&Ps and office visits write ups. All these components will be evaluated and signed off by the attending physician only. You can not pass the IM clerkship without successfully meeting all the requirements of this log.

5. Evaluations

You must complete all the evaluations sent to you on the clerkship and residents/faculty prior to receiving a grade.

EVALUATION AND GRADING

From time to time, "personality conflicts" arise between the student and members of their team. It is expected as a maturation process that the student will learn to deal with these situations in a professional and courteous fashion. Therefore, these conflicts should be resolved at an individual level. If they cannot, then the student and his/her faculty should attempt to resolve the situation. If a satisfactory solution can not be reached, then the student should proceed to the clerkship coordinator, who will arbitrate the situation and make a decision. This decision will be final. Note -- faculty and resident evaluations will not be discounted because of a "personality conflict".

I. EVALUATION POLICY

Your performance during the Internal Medicine will be evaluated by the attendings and residents that you work with, and by a written, standardized examination (Shelf Exam)

A. Evaluation Components and Grading: An honors/high pass/pass/marginal/fail system will be used for evaluation during this Internal Medicine Clerkship. A standard form for the clerkships is used to evaluate students during clerkship experience. These evaluations are the basis for 75% of your final grade in Internal Medicine Clerkship and are weighted 75% attending evaluation and 25% resident evaluation. The attending evaluations are also weighted based on the amount of time spent under their supervision. The remaining 25% of your final grade is based on your performance in the written Shelf Exam.

All final grades are discussed with the department as a whole. Borderline final scores may be raised or lowered depending on input from the faculty at this meeting. Please note that marginal passing grades may be lowered to a failing grade if serious deficiencies are identified. If a serious breach of professionalism (i.e. lying, cheating and other poor behavior) has occurred this could also result in failure of the course.

You also must

- Turn in all loaned material
- Finish evaluations on all faculty
- Complete your E-Value Px/Dx log
- Turn in at least 2 corrected history and physicals
- Complete your History and Physical Competency Log

If these are not completed, you will be given an "incomplete" for the clerkship until they are satisfactorily completed.

B. Final Exam scoring:

The Shelf Examination performance will take into consideration your percentile rank and the equivalence in points is as follows: 99-70%= 4 points, 69-51%= 3 points, 50-16%= 2 points, 15-5%= 1 point. A rank less the 5% means a failed exam.

C. Failing Grades

Failure of any single component of the clerkship (including the test) will result in failure of the course. If you do not pass the “shelf exam” (<5th percentile) you can retake it one time. If it is failed a second time the entire clerkship must be repeated including a third try at the final exam. If the test is failed the third time you will have failed this mandatory rotation. Other grounds for failure would include; not showing up for required lectures and conferences, neglecting patient care responsibilities, or having unprofessional behavior. Failure of the clerkship will result in remedial work. The type and amount will be determined by the Clerkship Committee with approval by the Department Chair. Failure of the clerkship will result in review by the School of Medicine Student Progress Committee and dismissal from the school.

D. Honors

Honors will be awarded to students based on outstanding performances throughout the clerkship. An evaluation average of 3.50 points or above and a score of at least 50th percentile on the standardized exam will qualify a student for faculty consideration to award honors. Clinical skills will be reviewed based on faculty and resident evaluations and comments noted on the clinical competency examination. Knowledge base evaluation will be reviewed based on Shelf exam, lecture sessions, subjective evaluation, and faculty/resident comments. An honors student performs all required and facultative components of the clerkship in an outstanding fashion. Humanistic qualities will be evaluated through faculty and resident comments on evaluation forms.

Grading Calculations
IM Clerkship, Reno

Student: _____

Points from evaluations

- Honors = 4 points
- High Pass = 3 points
- Pass = 2 points
- Marginal = 1 point
- Fail = 0 points

From Syllabus

75% of grade is evaluation score (25% of which is derived from residents)
25% of grade is shelf score

The Shelf Examination performance will take into consideration your percentile rank and the equivalence in points is as follows: 99-70%= 4 points, 69-51%= 3 points, 50-16%= 2 points, 15-5%= 1 point. A rank less the 5% means a failed exam.

The average point distribution for the final grades is as follows: honors (4.00-3.50 points), high pass (3.49-3.00 points), pass (2.99-2.00 points) and marginal (1.99-1.00 points).

All final grades are discussed with the department as a whole. Borderline final scores of the next higher grade may be raised if there is sufficient merit, and majority of the Faculty who had worked with you agree with the raise of you final grade. Please note that marginal passing grades may be lowered to a failing grade if serious deficiencies are identified.

Mandatory components

- ___ P/E card- yellow card, completed
- ___ adequate patient log
- ___ turned in all loaned material
- ___ at least 2 critiqued H&Ps in file
- ___ finished evals

VA attending evals

Attending(s)	grade	points	x	%time spent	=	total points

AVG VA points _____

Renown attending evals

Attending(s) grade points x %time spent = total points

AVG Renown points _____

Clinic evals

Attending(s) grade points x %time spent = total points

AVG Clinic points _____

Avg Attending evals _____ + _____ + _____ /3 = _____

Resident evals

Resident grade points

AVG resident points _____

Overall points

Attending Eval Avg _____ x 0.75 = _____ points

Resident Eval Avg _____ x 0.25 = _____ points

Total eval points _____ x 0.75 = _____

Shelf exam score _____, percentile _____ = _____ points x 0.25 = _____

Total points _____

Faculty meeting

notes: _____

Final Grade : _____

Summary of Evaluation Criteria for Clinical Preceptors

HONORS: (Includes all expectations for pass)

Knowledge: The student has a fund of knowledge far beyond what would be expected at their level. He/she is able to recite the basic facts associated with the diseases discussed on rounds. The student has a thorough understanding of the disease process of his/her patient and when stumped on rounds he/she takes the initiative to read and actively participate in the discussion the next day. The student is able to contribute to the discussion on the teams' patients and prepares on the weak areas discovered on rounds. The activities are self-directed, not assigned.

Problem Solving: The student is able to create a complete differential diagnosis with the list being prioritized. The student has knowledge of sensitivity vs. specificity and is able to use this to suggest an appropriate work-up of the patient. Recognizes the assessment/management of the patient is not rote, but takes into account the individual differences exhibited by patients. Generally performs at a level of an intern in determining diff dx and the work-up of the patient. There is a sense the student is developing clinical judgment.

Clinical Skills: The student is able to create a thorough H&P. The information is succinct and can support the differential dx. The student clearly separates out pertinent data in that the significant ROS finds itself in the HPI because the student is working on his/her differential as the history is being taken. The student has covered relevant material and the attending has no further information needed to assess the patient. The student knows what is relevant and why. The student has expertise in the performance of the physical exam. (These tasks need to be observed) Patient presentations are organized, to the point, cover all relevant data.

The expectations increase as the rotation progresses. Generally an honors student would never make the same mistake again and would remember all that was reviewed on rounds.

Interpersonal Skills: Team work is critical and care of the patient remains the most important concern. The student when working with the residents keeps them fully informed on the current status of a patient. The student becomes a valuable member of the team and the team develops trust for the students' ability to monitor a patient. The student should be able to function fairly independently. The student is able to contribute to the team as a whole not just on his/her own patients. The success of the team is more important than standing out as a "star". This is someone you can see as a future colleague.

Professional Characteristics: The student displays strong "ownership" of the patient. The students' goal is to provide the absolutely best care possible to the patient and is available to make sure this happens. The student takes extra time in patient management and will initiate activities on his/her own to improve patient care. The student is able to take constructive criticism and does not make excuses for mistakes. The student is not afraid not to know as how they appear is not as important as what is best for the patient. The student is always looking at how they can learn more.

Motivation/Enthusiasm: The student can never do enough on rounds, on call, at home reading, or in the care of the patient. The student always makes it to lectures, rounds, clinics on time, well-prepared and ready to share information learned the day before when appropriate. The student stays as long as it takes to get the job done for the day. The student would volunteer to do extra work to enhance their experience. Studies on patients have always been followed up and the student is prepared to discuss what needs to be done next. The student does not wait for the intern or resident to tell them what to do, but anticipates what needs to be done for a patient. The student uses the residents/attending as a resource before a patient is given advice.

HIGH PASS:

Knowledge: The student has a better than expected fund of knowledge of disease processes in internal medicine and their diagnosis and treatment. He/She is able to use knowledge from the basic sciences and apply it to patient care. The student is able to answer questions about his/her specific patients history and physical without referring to the notes.

Problem Solving: Formation of differential diagnosis is good and needs little in the way of additions. Differential diagnosis is then used to guide decision making. It is apparent the student is reading and studying on his/her patients in order to improve care and improve his/her skills.

Clinical Skills: The student's H&P goes into sufficient detail to demonstrate good critical thinking and prioritization. The assessment and plan are well organized and show logical judgment. The physical exam is meticulous and done systematically. No clear physical finding is absent from the student's note. Patient presentations are done without reference to notes and are organized well.

Interpersonal Skills: The student communicates well with the team on his/her patient issues and is trusted to perform history taking independently. There is a strong sense of team loyalty and unity. The patients' generally feel the student is their friend and advocate due to strong personal skills.

Professional Characteristics: The student puts patient care above self interest. The student is always available during the day except when at mandatory clerkship activities and eagerly accepts new responsibilities. Demeanor, dress and attitude are always extremely courteous and respectful. Handwriting is excellent.

Motivation/Enthusiasm: The student comes to work looking forward to the day and seeing his/her patients. The student has read about his/her patients to prepare for rounds. It is apparent that time has been spent looking up additional information. A keen interest is taken in all patients not just the patients under their care.

PASS:

Knowledge: The student is comfortable discussing the standard disease processes seen in internal medicine. The student is able to answer basic questions about the core topics covered

during the first 2 years and participates during rounds on all patients. Student has prepared to discuss the issues on his/her own patients. The student can formulate a diagnostic plan.

Problem solving: The student is able to formulate a differential diagnosis and a plan to assess the different problems. The student is well versed on his/her patients but can contribute at times on the team's patients. The student is able to determine most of the time the relevant data to the problems of the patient. The student reads about focused issues to improve patient care plans.

Clinical Skills: The student is able to perform and write a complete H&P. The assessment and plan does not miss any of the big issues for the patient, but is not necessarily prioritized. The student is able to do a complete physical exam which is mostly accurate, but may miss subtle abnormalities on the expanded exam on the areas of concern. The attending finds most issues addressed by the student. The oral presentation is fairly organized, but some pertinent findings may be missing and occasional reference to notes is needed.

Interpersonal Skills: The student communicates well with the team on his/her patient issues. The student may participate on rounds in a collaborative fashion in discussing other patients. Patient care is the priority. The student shows a true interest in patient care. The student remains in close contact with the supervising resident in regards to all patients being covered.

Professional Characteristics: The student is always on time and prepared for rounds and lectures. The student does not leave early unless instructed to do so. The student takes ownership of his/her responsibilities and does not make excuses. The student attempts to learn areas of deficiency to better improve their ability for patient care. The student does not overestimate their ability so is able to admit when help is needed. The student demonstrates care and compassion for the patient. The student is always courteous and respectful of the patient and the team. The student does all of their assignments.

Motivation/Enthusiasm: The student comes to work looking forward to the day and seeing his/her patients. The student has read about his/her patients to prepare for rounds. The student has the pertinent information available. The student does not necessarily take the time to read about other patients on the team. The student is ready to present any assigned readings.

MARGINAL:

Knowledge: Often the student cannot recall the basics of disease processes seen. Excuses are sometimes given for the lack of knowledge. When questioned about a disease process random guesses are often the answer rather than a thoughtful answer guided by the first two years of training. Little progress is made during the rotation.

Problem solving: The student can only generate a very limited differential diagnosis despite prompting. When the patient has a new problem the student needs a lot of guidance to understand what must be done diagnostically or therapeutically. Little progress is made during the rotation.

Clinical Skills: When performing and presenting an H&P there are some parts missing. ROS are not complete. Physical exam often misses some findings and is not well organized nor systematic, i.e. the student jumps from one body system to another and then back again. Presentation is impossible without reading directly from the H&P or daily note.

Interpersonal Skills: Sometimes the resident or intern is not kept in the loop regarding patient issues. This becomes apparent during rounds. The student may come across as slightly arrogant and is not very accepting of constructive comments. On the other extreme the student may be so timid they cannot interact well with patients to glean all the necessary information.

Professional Characteristics: Occasionally cannot be located by the team and is occasionally, but not usually, late to rounds or morning report. Does not seem to understand they are an integral part of a team. Appears disheveled or has inappropriate clothing.

Motivation/Enthusiasm: You get a sense the student is just trying to do the minimum to get through the rotation and doesn't really care to learn much about internal medicine. The student greets additional responsibility with a sense of indifference rather than enthusiasm.

FAIL:

Knowledge: The student can't seem to remember any of the basics about the disease processes seen. When a topic is reviewed the student does not know the material the next day. The student shows little or no improvement over the block of time. The student never knows the answer to any questions on rounds. The student does not make an effort to read on any deficiencies identified.

Problem solving: The student is able to obtain data from a patient but is unable formulate an adequate differential diagnosis. The student cannot tell the difference from pertinent data to just ROS. Basically the student shows no ability to interpret data.

Clinical Skills: The student does not do a complete H&P. There are significant parts missing. The student misses major points in taking a history and the physical exam skills are poor i.e. misses a loud murmur, wheezes, peripheral edema. The student cannot organize the presentation and regularly leaves out key information.

Interpersonal Skills: The student does not participate with the team. The student does not listen on rounds. The student does not recognize patient care is a team responsibility. The student does not contribute on rounds. The student has poor communication skills with the patient and / or the team. A patient may comment that the student is not listening or is rude.

Professional Characteristics: The student is late, unprepared and makes excuses rather than taking responsibility for the error. The student may make rude and disparaging remarks about patients and/or team members. They do not take constructive criticism and become defensive and/or angry instead or blame someone else. The student may lie about patient information rather than admit he/she did not do the work. The student breaches patient confidentiality. The student demonstrates arrogance or misrepresents themselves as an intern or resident.

Motivation/Enthusiasm: The student shows little or no interest ~~whatsoever~~ in the care of the patient or discussions about disease processes and/or management. The student does not read about his/her patients. The rotation is approached as shift work and does not follow through with patient issues. The student routinely does not complete assignments. The student does not keep in contact with the supervising resident.

Objectives and Core Problem List-Internal Medicine, Reno

Objectives:

Attitudes

Medical students must demonstrate respect for patients, health care professionals and other students. Patient confidentiality must be respected at all times. Students should be on time to all functions and dress and act in a professional manner.

Skills

History and Physical Examination:

- Students should be able to elicit the patient's chief complaint, history of present illness, past medical history, social, family, occupational histories and complete a review of systems.
- Perform a physical examination in a logical, organized and thorough manner.
- Demonstrate the ability to construct an assessment and plan for an individual patient organized by problem, discussing the likely diagnosis and plan of treatment.
- Demonstrate the ability to record the history and physical in a legible and logical manner
- Demonstrate the ability to write daily progress notes on the ward and appropriate outpatient progress notes.

Case Presentation

- orally present a new patient's case in a focused manner, chronologically developing the present illness, summarizing the pertinent positive and negative findings as well as the differential diagnosis and plans for further testing and treatment. *Reading your H&P is not an adequate case presentation!*
- orally present a follow-up patient's case, focusing on current problems, physical findings, and diagnostic and treatment plans.

Diagnostic Decision Making

- formulate a differential diagnosis based on the findings from the history and physical examination.
- use the differential diagnosis to help guide diagnostic test ordering and its sequence.
- participate in selecting the diagnostic studies with the greatest likelihood of useful results.
- recognize that tests are limited and the impact of false positives/false negatives on information.

Test Interpretation

- Describe the range of normal variation in the results of a complete blood count, blood smear, electrolyte panel, general chemistry panel, electrocardiogram, chest X-ray, urinalysis, pulmonary function tests, and body fluid cell counts.
- Describe the results of the above tests in terms of the related pathophysiology.
- Understand test sensitivity, test specificity, pre-test probability and predictive value.
- understand the importance of personally reviewing X-ray films, blood smears, etc. to assess the accuracy and importance of the results

Therapeutic Decision Making

- Describe factors that frequently alter the effects of medications, including drug interactions and compliance problems.
- Formulate an initial therapeutic plan.

- Access and utilize, when appropriate, information resources to help develop an appropriate and timely therapeutic plan.
- write prescriptions accurately.
- counsel patients about how to take their medications and what to expect when they take their medications, including beneficial outcomes and potential adverse effects.
- monitor response to therapy.

Core Problems and Procedures

It is the expectation of the internal medicine faculty that you should be exposed to the following core problems and procedures during the clerkship. Please look for opportunities during the clerkship to work with patients that have these disease states as experience is really the best teacher. Where applicable understand the clinical features, differential diagnosis, evaluation and management of the following.

- I. Core disease states or problems
 - A. Anemia
 - B. Common cancers
 - C. Hypertension
 - D. Cardiac disease: Acute Coronary Syndrome and Chest Pain
 - E. Cardiac disease: Congestive Heart Failure or valvular pathology
 - F. Diabetes
 - G. Gastrointestinal disease
 - H. Arthritis
 - I. Fever and antibiotic therapy
 - J. Chronic lung disease (COPD and Asthma)
 - K. Renal disease
 - L. Liver dysfunction
 - M. Hyperlipidemia

- II. Core procedures
 - A. Rectal exam/stool guaiac
 - B. Independent EKG interpretation
 - C. Independent chest x-ray interpretation
 - D. Independent ABG interpretation
 - E. Counseling
 1. Discharge instructions
 2. Behavior changes (wt loss, alcohol, tobacco, exercise)
 3. Health maintenance

- III. Recommended procedures
 - A. Pelvic Exam and Pap smear
 - B. Arterial puncture for blood gas

DIDACTIC LECTURES

Lecture schedules will be periodically updated and placed in your student mailboxes that include dates, time and location of lectures. Please check you boxes frequently for possible changes.

<u>Lecture Title / Topic</u>	<u>Faculty Instructor</u>
Acid – Base Analysis	Dr. Nitin Bhatt
Pulmonary Embolism, DVT	Dr. Nitin Bhatt
Hypertension	Dr. Michael Bloch
Lipid Disorders	Dr. Michael Bloch
Radiology Sessions (6)	Dr. Ted Lange
EKG Basics (3)	Dr. Doina Kulick
EKG Advanced (3)	Dr. William Graettinger
Advanced Bedside Physical Diagnosis (4)	Dr. Phil Goodman
Internet, PDAs and Medicine	Dr. Phil Goodman
PFTs	Dr. Peter Krumpe
COPD, Asthma	Dr. Peter Krumpe
Abdominal Pain	Dr. Brad Graves
Type 2 Diabetes	Dr. Ray Plodkowski
Thyroid Disease	Dr. Ray Plodkowski
Skin Infections	Dr. Charles Krasner
Fluids /Electrolytes	Dr. Chris Nielson
Congestive Heart Failure	Dr. Chris Nielson
Stupor / Coma	Dr. John Peacock
Lab/Rad Exam of Rheum Disease	Dr. John Pixley
Major Rheumatic Syndrome	Dr. John Pixley
HIV	Dr. Steven Zell
Human Simulator Cases	Dr. Kirk Bronander
Renal Disease	Dr. Brad Graves

Clerkship Directors in Internal Medicine (CDIM)

Primer to the Internal Medicine Clerkship

INTRODUCTION

Welcome to your internal medicine clerkship. We are genuinely delighted that you have joined us for this short period. During the clerkship, you will likely get only a small glimpse into the world of internal medicine. Nevertheless, through this experience, we expect that you will acquire fundamental skills, reinforce and expand your knowledge, and develop personally and professionally. We hope that this experience inspires you to learn and experience more of what internal medicine has to offer. Regardless of your future career path, we wish you the most exciting, stimulating, rewarding, and transforming experience possible over the coming weeks.

The information in this booklet has been produced through the collaboration and consensus of internal medicine clerkship directors across the country, most of whom have spent many years teaching, evaluating, and advising students. Additionally, a substantial component of this book has come from the insights of students who recently completed their clerkship. We try to provide the most generic, reliable, “tried and true” approaches to the clerkship. We hope that this guide will provide you with knowledge and perspective that will last well beyond your internal medicine clerkship.

It is important to note that information provided by your clerkship director should take precedence over these suggestions.

ACKNOWLEDGMENT

The purpose of this second edition is more to update than improve upon the initial primer. The original version was such an important addition to the tools available to help enhance the internal medicine clerkship that we were quite inspired and left much of it unchanged. The current editor and co-authors are deeply indebted to the original group of authors and, of course, Eric J. Alper, MD, the editor and mastermind behind the first edition, for providing us this wonderful template.

Disclaimer – Any reference to a product in this book does not imply any endorsement of the product by CDIM or the editor and authors. Product references are only included to provide examples of resources and are not meant to be exhaustive lists of available material.

CHAPTER 1: GOALS FOR THE CLERKSHIP

The primary focus of the internal medicine clerkship is to increase your capacity to function as a caring, increasingly independent, but supervised clinician on an interdisciplinary internal medicine team.

For the specific goals of your internal medicine clerkship, consult the material your clerkship director provides. Many clerkship directors use the national *CDIM-SGIM Core Medicine Clerkship Curriculum*. You can access this guide at www.im.org/CDIM/CurriculumGuide/default.htm. In general, the internal medicine clerkship is your main opportunity to become familiar with the common acute and chronic illnesses adult patients face as well as screening and preventive medicine. While expanding your medical knowledge, you will also be solidifying basic clinical skills such as patient interviewing, physical examination, and communication through case presentations and written documentation. This time is also a major opportunity to improve more advanced skills such as clinical reasoning and developing physician-patient relationships.

In seeking to achieve the goals of the clerkship, we believe it is important for you to understand what internal medicine is and what qualities characterize the ideal internist. In the broadest sense, internal medicine is medicine for adults. By far the largest medical specialty, internal medicine constitutes a major part of the overall landscape of medicine. Internists care for a broad spectrum of patients, ranging in age from adolescents to the ever-growing elderly population. Practitioners of internal medicine include both general internists and subspecialists. General internists coordinate and provide longitudinal care for adults with any problem. Internal medicine also includes subspecialists, such as cardiologists, nephrologists, oncologists, critical care physicians, and many others, who focus on the care of patients with specific diseases and disorders, (**Appendix 1** is a more detailed description of the variety of careers available in internal medicine.) Many of the subspecialties of internal medicine are heavily procedure-based.

An internist's practice may be mostly office-based, mostly hospital-based, or a combination of both. The general internist coordinates the care of the whole patient by working in concert with colleagues. Subspecialists may accept this role for patients whose major problems are within their focus or serve primarily as consultants to generalists and specialists in other disciplines. The internist is a clinical problem-solver, able to integrate pathophysiological, psychosocial, epidemiological, and "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. Frequently, internists teach medical students and residents.

"An internist is a physician who can embrace complexity yet act with simplicity."
— *Louis Pangaro, MD, Vice Chair for Educational Programs, Department of Medicine, Uniformed Services University of the Health Sciences.*

BASIC PROFESSIONAL EXPECTATIONS OF THIRD-YEAR CLERKSHIP STUDENTS

It is our hope that the clerkship provides you with exposure to the breadth of possibilities available in internal medicine, and that this primer provides you with the tools to make the most

of that experience. Your clerkship director will provide a more specific guide to the duties and expectations of the site where you will be performing your rotation. The following expectations are common to all sites:

- Attend all clerkship activities on time. If you must be absent, get permission in advance.
- Dress professionally. The way you dress makes a statement about your school, hospital, and the medical profession; it will influence the way you are perceived by your patients and your colleagues. If you have any question about what constitutes professional dress, consult your clerkship director.
- Treat every member of the health care team, your colleagues on the clerkship team, and every patient with respect.
- Always introduce yourself, correctly identifying your role on the team as a medical student. “Student doctor” is a particularly useful description.
- Answer your pager and email in a reasonable time frame.
- Make sure your handwriting is legible and ensure every note includes your name, role, and pager number.
- Preserve confidentiality—do not discuss patients in public places and destroy all papers with patient-specific information that are not part of the medical record. Do not look in the chart (paper or electronic) of any patient for whom you are not caring.

CHAPTER 2: HOW TO LEARN MOST EFFECTIVELY ON THE INTERNAL MEDICINE CLERKSHIP

Most learning will take place outside of the classroom through experiences with patients and interactions with your team. While you may be offered a series of lectures, the bulk of your learning should be self-directed. It is essential that you read regularly to answer the questions encountered each day. Take responsibility for your own education. Make sure that through reading, experiences, and didactics, you meet the goals of the clerkship.

- Understand and clarify, if necessary, the expectations your residents, attending physicians, and course directors have of you.
- Keep a list of questions that arise during your day and seek the answers.
- Demonstrate that you are a self-directed learner by reading during the clerkship. Your education will depend on it.
- Supplement reading about your patients with periodic use of a review book with test questions to ensure you cover core topics and are prepared for examinations of your knowledge.
- Be an active participant in your patients' care. Be the "go-to" person for all of your patients. Each problem or question that arises is an opportunity to learn.
- Be a team player. Be available to help all other team members, including other students.
- Be around—do not expect your team to find you when something important is happening. Although you may not always recognize it, you are an integral member of the team. Do not underestimate your importance. Knowing where you fit in and fulfilling the part is very important. As a junior member of the team, it is generally best to be malleable and "go with the flow." However, if you have an important question or concern, it is equally important that you ask the question or express the concern.
- Try to be observed and solicit feedback on a regular basis, both positive and negative. Constructive feedback is essential to your growth.
- Read about all of your patients in depth. Learning moments may come when you least expect them. Pay attention at all times, even when the focus is not on you or your patient. You can learn as much and sometimes more from the patients of others.
- Strive to practice evidence-based medicine. It is our responsibility to bring the best scientific evidence to every clinical decision that is made. Use evidence-based clinical practice guidelines and standard order sets whenever possible and learn from them.

- Try to acquire all of the best lessons from your teachers. Much as they strive for perfection in every behavior and decision, your role models may not always be able to manage every situation in the best manner every time. Try to model their best skills and behaviors, while learning from their mistakes as well as your own.

It is important to gain broad knowledge about the spectrum of medical illnesses as it will be impossible for you to see patients with all conditions about which you need to learn during your clerkship. Follow a structured reading program. It is helpful to have an overview or concise textbook of medicine, which you can read from cover to cover, during the course of the clerkship such as the *ACP-CDIM Internal Medicine Essentials for Clerkship Students*, *Cecil Essentials of Medicine*, Paauw's *Internal Medicine Clerkship Guide*, and the *First Exposure to Internal Medicine* books among others. A reference textbook of medicine, such as *Harrison's Principles of Internal Medicine*, *Cecil Textbook of Medicine*, or *ACP Medicine*, is recommended for most patient-related reading. Information about reading resources is available online at the AAIM may (www.im.org) and ACP (www.acponline.org) websites. Your clerkship director can provide specific recommendations about which books and resources are preferred locally.

Students also need additional resources to read in greater depth; review articles from the literature or electronic resources are good resources to access. You may want access to pocket manuals for rapid reference (on bedside rounds or in the emergency department, for example). The *Washington Manual of Medical Therapeutics* is invaluable for formulating treatment plans and writing orders. Ferri's *Care of the Medical Patient* and *The 5-Minute Clinical Consult* are also commonly used. These abbreviated resources can be purchased for electronic devices for slightly more than their print counterparts (www.skyscape.com has many titles). When it comes time to prepare for the clerkship final examination, many students use *MKSAP for Students*, an excellent resource produced by CDIM and ACP that contains questions with detailed explanations organized around the core CDIM training problems.

ACP's Physician Information and Education Resource (PIER) is an electronic resource that provides evidence-based guidance for managing clinical problems. Access to PIER is free for ACP members; membership is free for students. *UpToDate* is another excellent electronic resource for investigating specific clinical questions. However, these resources will be less valuable for overview reading of larger clinical topics (an overview of congestive heart failure, for instance). Additionally, the Internet provides access to an enormous library of medical information as a rapid reference. It is always a good idea to start at your school's library website.

Students should be self-directed learners and share what they have learned with their colleagues. This practice of continuous, ongoing learning will be necessary throughout your career. When you read, consider preparing a one-page summary; be prepared to present this synopsis to your team. If your attending or resident does not assign you a topic, pick a clinical subject that interests you and is relevant to at least one of the patients on your current team. If you are having trouble choosing a topic, ask for help from your attending or resident. If you have been given a specific topic to research, do not be afraid to ask for guidance. A concise, summative handout that you share with your team is a nice touch.

CHAPTER 3: CLINICAL REASONING, LEARNING THEORY, AND THE CORE COMPETENCIES

FORMULATING A DIFFERENTIAL DIAGNOSIS

The internal medicine clerkship is the primary rotation in which students learn and develop the complex cognitive skill of accurately assessing clinical situations and arriving at a diagnosis. To become a master diagnostician, you need knowledge, an ability to gather accurate clinical data from the patient, superb problem-solving skills, and the resourcefulness to pursue self-directed learning. Memorizing lists of diagnoses that might explain a particular sign, symptom, or laboratory/diagnostic test abnormality is insufficient. A differential of diagnoses must be carefully tailored to the specific patient's clinical situation. This skill requires an ability to identify problems, translate abnormalities into precise medical terminology, prioritize issues, and distill the key features of the clinical presentation. The patient's presentation is matched against patterns of disease presentation to identify what diagnoses are most likely, less likely, and unlikely.

Three basic strategies exist for problem solving: hypothetico-deductive reasoning (also called backward thinking), algorithmic thinking (also known as forward thinking), and pattern recognition. Expert diagnosticians tend to use pattern recognition and algorithmic thinking, but return to hypothetico-deductive reasoning if the first two strategies are unsuccessful. Novice clinical reasoners tend to use hypothetico-deductive reasoning more often than the other strategies.

Hypothetico-Deductive Reasoning

In hypothetico-deductive reasoning, a differential list is based often on a single symptom or sign, such as the chief complaint. Each diagnosis in the list is then tested "back" to the patient's situation until the correct diagnosis is found (hence the nickname "backward thinking"). With a sufficiently complete list of diagnoses (i.e., the diagnosis is on the list!) and with time and persistence, this strategy works well. The drawbacks to backward thinking are its inefficiency and that it treats all diagnoses on the list as equally plausible. Use of a list-generating strategy or a mnemonic device can be an effective tool to help beginning clinicians identify potential diagnoses. When using backward thinking, the key to finding the correct diagnosis is to ensure it is on the list: therefore, the longer the list, the better.

These common scaffolds are used to help generate lists of differentials:

1. **Anatomic Approach.** The list is based on what anatomic structures are in the vicinity of the patient's complaint. This method works particularly well for localized pain.

2. Systems Approach (also known as Universal Differential Diagnosis).

Lists are generated based on pathophysiology or underlying mechanisms of disease processes. The categories/systems are:

Autoimmune	Inflammatory
Allergic/Immunologic	Metabolic
Degenerative	Neoplastic
Drugs	Nutritional
Endocrinologic	Psychiatric
Genetic/Congenital	Toxic
Iatrogenic	Trauma/Mechanical
Idiopathic	Vascular
Infectious	

When using a mnemonic device to recall common lists in medicine, remember such lists are not all-inclusive.

VINDICATE

Vascular
Infection/inflammatory
Neoplasm
Degenerative
Iatrogenic
Congenital/hereditary
Autoimmune
Toxic/metabolic
Endocrine

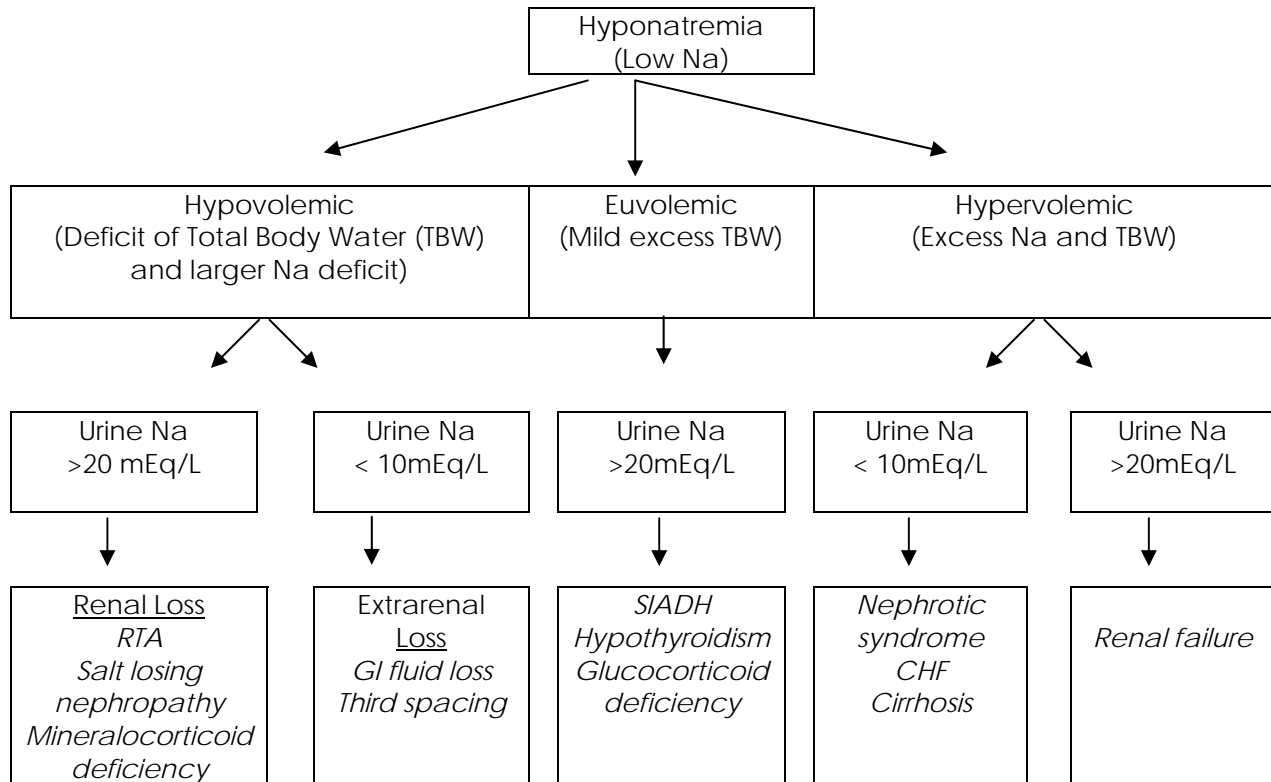
3. Other sources of lists.

With electronic access to information, it is easy to find sources of lists such as *The 5-Minute Clinical Consult*, *Ferri's Instant Diagnosis*, and *UpToDate*.

Forward Thinking

Forward thinking refers to a problem-solving strategy that progressively adds more detail about the clinical problem to narrow the differential of diagnoses. It can often be illustrated as an algorithm.

Example: Hyponatremia



The differential is based on adding characteristics of the syndrome to narrow the list of potential diagnoses, e.g., hyponatremia (as above), anemia (macrocytic, normocytic, or microcytic?) or gastrointestinal bleeding (upper or lower?). There are many common algorithms in clinical medicine. Experienced physicians group related diagnoses to develop their own algorithms that use branching logic to help solve clinical problems. Expert diagnosticians use branch points to guide clarifying questions while obtaining the history. Look for different forward thinking algorithms in basic medical textbooks and pocket manuals for the wards.

Pattern Recognition

Physicians often instantaneously recognize the patterns of diseases with which their patients present. Pattern recognition is a common strategy used in everyday life. When a nephew recognizes his great-aunt, it is instantaneous. He thinks, "Great Aunt Minnie!" He did not try a forward thinking approach "Here is a little old lady with blue hair, orthopedic shoes, and an outrageous orange handbag. I know who this must be, my Great Aunt Minnie!" He did not consider hypothesis testing: "This is a little old lady. Could it be the Queen of England? Could it be my grandmother?" When pattern recognition is used in medicine, the trigger for the

diagnosis is the disease, not the syndrome and not the symptom. The physician arrives at the diagnosis by instantaneously processing and synthesizing the patient's clinical information to recognize that the patient's presentation exactly matches the disease's illness script. To use this method of reasoning, the physician must have clinical experience; have an excellent knowledge base of classic disease illness scripts; be adept at processing, prioritizing, and synthesizing clinical information into the patient's illness script; and use a compare and contrast mentality. Until a physician has a great deal of clinical experience, diagnostic errors can be made if pattern recognition is attempted prematurely. With this method, knowledge has become organized into complex networks, in which the multiple branching algorithms are interlinked.

PUTTING IT ALL TOGETHER

Students more efficiently arrive at an accurate differential and develop the knowledge organization to support more advanced problem-solving skills when they use a systematic approach to managing clinical information. The most common approach is to develop a problem list, synthesize a one-sentence summary, and then create a differential of potential diagnoses. The assessment and differential guides the plan to diagnose and treat the patient. While this approach is used by nearly all physicians, it is not necessarily communicated explicitly to students who are learning these skills. The following is a stepwise approach to solving clinical problems from problem list to a synthesized summary of the patient's presentation.

The Problem List

- Identify all problems or key features from the history and examination.
- Process the list into accurate and precise medical terminology
 - Process descriptively, e.g. dizziness like “spinning” becomes the more precise “vertigo.”
 - Process summatively, e.g. features such as chest pain, hypotension, S3 gallop, pulmonary edema, and poor perfusion combine to become “chest pain with cardiogenic shock.”
- Reduce the list
 - Remove redundancies.
 - Eliminate “due to,” e.g. eliminate the “dyspnea” due to the more specific problem of “pleural effusion.”
 - Drop nonspecific abnormalities, e.g. “malaise” in the patient with pneumonia.
- Prioritize the problems and identify how they relate, including key markers of severity or complications, e.g. mitral regurgitation complicating acute coronary syndrome.
- Identify which problems are unrelated to the primary presenting syndrome and separate these as problems of secondary importance.

The One-Sentence Summary (Synthesis of Patient's Presentation)

Every attending physician will ask a student to give a short summary of the case either after a full presentation or in place of one. The student must interpret and synthesize many data points to arrive at this summary. The best one-sentence summary of a patient's clinical situation concisely highlights the most pertinent features without omitting any significant points. The sentence should contain the following three key components: the patient's epidemiology, the

temporal pattern, and a syndrome statement. When using this format, the summary models an illness script, the basic construct that physicians use to recall and recognize a disease. The classic disease illness script emphasizes (1) who gets it, (2) how does it present with respect to time, and (3) what key features are expected at presentation.

Example: Summary of the Patient's Presentation:

- Epidemiology: Who is this patient?
 - Include only the patient demographics, past medical history, and social and family history that make him/her at risk for diseases that present in this manner.
 - Omit demographics, past medical history, and social and family history that are unrelated to the current clinical situation.

- Temporal pattern: How did the symptoms and signs presenting with respect to time?
 - Describe the chronology of the presentation: Is it acute or chronic? Constant or intermittent? Is it worsening or improving?

- Syndrome statement: What are the key clinical features of the presentation?
 - Construct this phrase by combining, prioritizing, and relating the identified problems.

Common student mistakes are to include too much and irrelevant patient epidemiology, forget or fail to emphasize the temporal pattern, or accidentally omit or incorrectly state important parts of the syndrome.

Model summary statement: "Mrs. M. is an elderly woman with atrial fibrillation and heart failure, who presents with sudden onset right hemiparesis and dysarthria."

The Differential Diagnosis

A differential of diagnoses that commits to what is most likely and what is unlikely is developed by comparing the patient's symptoms and findings to particular disease entities. To accurately match the patient's presentation to the known patterns of diseases, physicians store and retrieve knowledge about how diseases present. The basic construct that physicians use to recall and recognize diseases in patients is the illness script.

Classic Disease Illness Scripts:

- Epidemiology (who gets it)
- Temporal pattern (how it presents with respect to time)
- Syndrome statement (key clinical features present at the time of initial diagnosis)

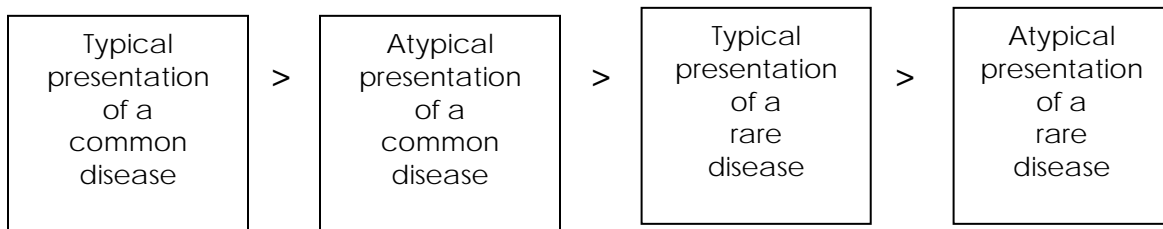
Other information about pathophysiology, therapies, late onset complications, and atypical presentations are anchored to uniform memory framework, while these three basic components remain at the core. How likely a disease is in a specific patient can be estimated by comparing the classic disease illness scripts to the individual patient's presentation. The better the fit, the more likely the diagnosis under consideration is present.

- Prioritize the differential based on fit.

- Very likely diagnoses fit the epidemiology, temporal pattern, and syndrome.
- Less likely diagnoses fit some, but not all key features of the patient; or the patient has only some of the key features of the disease.
- Diagnoses relegated to ‘unlikely’ match only one or a few symptoms or findings.
- Also, consider how common the disease is.

Always consider prevalence: a common disease is always more likely than a rare condition. In general, a patient is more likely to have a condition that is a common presentation of a common condition before an atypical presentation of a common disease or a typical presentation of a rare disease. An atypical presentation of a rare disease is much less likely. Internists love to consider rare diseases; after all, thinking of the disease is the first step to making the diagnosis. It is good to recognize and consider a rare disease, but put the disease likelihood into perspective by remembering the overall prevalence of the disease.

In general:



Physicians use the prioritized differential to guide the plan for the patient. A physician will test and/or treat for diagnoses that are most likely before those diagnoses that are unlikely. The only exception to this rule is for diagnoses that are potential emergencies, i.e., those that might kill a patient if missed in the first 24 hours. Myocardial infarction, pulmonary embolus, bacterial meningitis fit this definition. Therefore, physicians have a lowered threshold to test and treat for these diseases.

SUMMARY

Problem List → (*processing*) → **Summary of** → (*matching to diagnoses*) → **Differential Patient's Presentation**

CHAPTER 4: SUGGESTIONS FOR SUCCESS IN THE INPATIENT SETTING

Your job in the inpatient setting is to meticulously care for the panel of patients to which you are assigned, while at the same time, learning as much as you possibly can. At times, service and learning may seem to be at odds but, generally speaking, they coexist quite well. It is useful to recognize that the faculty and house officers with whom you work are attempting to balance competing demands as well.

- Actively and enthusiastically participate in rounds. They are an opportunity for you to display your critical thinking skills and to demonstrate your understanding of the key concepts that underlie your patient's medical problems.
- Demonstrate effective organizational skills. You will learn more, have more fun, contribute more to patient care, and be less stressed if you keep yourself, your schedule, and your patient information organized. It will come as no surprise to you that being a physician is a very hectic business. Some tips to help start training yourself to be organized include:
 - Carry a calendar and mark all conferences and call days right away.
 - Develop a system for keeping patient data and tasks at your fingertips (note cards, fill-in-the blank templates, PDA).
 - Have information about your patients immediately available (e.g., vital signs, laboratory data, diagnostic studies, medications).

PERFORMING INPATIENT HISTORY AND PHYSICALS

When new patients are assigned to your team, your initial responsibility will generally consist of performing a complete history and physical examination (H&P). The data you collect on your patient will likely be more detailed than that obtained by other team members. It is not at all unusual for the medical student to be the one who obtains a crucial piece of information that substantively changes the management of the patient. Although your initial workup should be thorough, it, does not automatically imply that it be long. Being concise without sacrificing thoroughness is an important skill that you will develop over time.

- Perform as many H&Ps on your own as possible. Whenever feasible, get to the patient before others do their evaluation.
- The H&P should be thorough, yet focused. The differential diagnosis for the patient's problems should inform the questions you ask and the physical exam maneuvers you perform.
- Begin with open-ended questions and then narrow down to more specific questions as necessary.
- Gather a complete social history and review of systems.

- While examining your patient, strive to proceed in a logical sequence that maximizes efficiency and minimizes patient discomfort. The old-fashioned head-to-toe method still works well for the large majority of patients.
- The inpatient admission examination should be complete and never confined to a single system. For example, in addition to examining the lungs and heart of a patient with shortness of breath, you should examine the neck for jugular venous distention; the extremities for edema, tenderness (DVT?) and clubbing; and the abdomen for splinting or masses.
- Perform examinations such as fundoscopic exams, rectal examinations, and male and female genitourinary examinations (chaperoned) whenever possible.

THE WRITTEN HISTORY AND PHYSICAL EXAMINATION

One of the major goals of the internal medicine clerkship is to learn how to communicate medical information and assessment via thorough, well-developed medical documentation. Writing H&Ps is an important skill and learning tool. Think of writing your H&P as a means to integrate all of the information you gather with what you know and what you read to form a coherent, informed argument of what you think is happening with the patient, why it is happening, and what diagnostic and therapeutic actions you want to take.

- There are many different ways of preparing an H&P and you should be open to suggestions. Be sure to carefully review any specific guidelines for written H&P provided by the clerkship. Eventually, you will develop your own style, but for now, stick to the stated expectations.
- Use a clear and concise writing style. Words that are not completely necessary are often left out. Just include the facts.
- Write your history of present illness (HPI) in a way that tells the patient's chronology with all relevant details. When reading your HPI, others should be able to determine the diagnostic possibilities that you are considering and what is most likely.
- Write systematically, which will identify information you might have forgotten to gather.
- Document a thorough past medical history and complete medication list. This step is essential to providing safe, high quality care.
- Document general appearance and vital signs.
- Use only standard and widely accepted abbreviations; creative abbreviations confuse and slow the reader.

- Never use dangerous abbreviations in the medication section (e.g., never “qd,” always “daily;” never “μg,” always “mcg;” never “U” always “units;”). A complete list of abbreviations prohibited by the hospital at which you rotate should be available to you.
- Include laboratory data and results of diagnostic studies after recording your history and exam findings. Interpret the admitting ECG and document-specific findings (or lack thereof) from radiologic studies (e.g., “CXR-no infiltrate or edema” is better than “CXR negative.”)
- Write neatly. If no one can read what you have written, what good is it?
- Be sure to label, date, and sign each chart entry.

The assessment and plan (A/P) is always the most challenging and important section. You may want to discuss your thoughts with your resident before beginning. It is important to develop a complete, well-considered problem list for your patient. List all active problems in order of descending importance. Each problem should be considered as you write your assessment and plan. For each problem, your assessment should include a differential diagnosis (when appropriate), a statement demonstrating understanding of underlying pathophysiology, and a diagnostic and management plan.

Do not use systems (e.g., respiratory, cardiac) as the headers for discussion in your A/P, regardless of what your resident may tell you. The “risks” of using this approach are that one problem may involve multiple systems (e.g., chest pain), and patients may have multiple problems within a single system (e.g., COPD, pneumonia, lung nodule). Except in critical care settings, a problem-based approach is much more effective and appropriate.

For example, the headers for your discussion in the A/P would be:

Correct	Incorrect
Chest pain	Cardiac
Pneumonia	Infectious Diseases
Lung Nodule	Oncologic

In some cases, the problem will be a symptom (abdominal pain); in other cases, when established by the data you have already collected, it will be a diagnosis (pancreatitis). As your understanding of the problem gets more refined, it should be renamed in the most accurate language possible.

In your discussion, a list of differential diagnostic possibilities is not sufficient. Do not simply quote a textbook. You must articulate why you think that patient has specific diagnoses, citing data from the history, exam, and studies that support your thought process.

ADDITIONAL SUGGESTIONS

Communicate Effectively with Patients and Their Families.

- You have the ability to make an important impact on the care and experience of your patient. You will likely spend more time with your patients than other members of the team. Your patients may see you as their primary provider, in effect, as “their doctor.” Spend additional time learning about who your patient is; understand his/her social, economic, and personal background and values.
- After diagnostic and therapeutic plans have been formulated, return to the bedside and discuss them with your patients. Do this initially with the assistance of your resident and attending.
- Feel free to have discussions with your patients. You will have the ability to comfort your patients during times of anxiety and fear. You will likely benefit from these discussions as much as your patients. Some sensitive discussions, such as disclosing very bad news, should be conducted by more senior members of the team, but you can still be available to provide additional information and support to the patient and family once this information has been presented. Discuss your role with your team and attending.

Show Competency with Patient Care Responsibilities.

- Be fully prepared and on time for work rounds every day and have all pertinent data available. Have a daily plan for each of your patients. Try to be the first one to get the important pieces of information about your patients and stay up-to-date on things that happen outside your purview.
- Have all notes and orders promptly co-signed. You may want to carry order sheets with you on rounds or text page the co-signing resident if using electronic order entry. Discuss the strategy with your team. With the guidance of your resident, contact and communicate with consultants as much as is possible and appropriate.
- Participate (including just watching) in as many procedures as possible, even if you are not following the patient. Try to accompany your patient to any diagnostic evaluations that occur during the hospital stay.
- Write admission orders on all patients that you admit. (Even if the intern has already completed this task, it is very instructive to write your own.)
- Learn about the other patients on your team. You should have at least a basic understanding of what is going on with all the patients on the team.

Integrate Fully into the Team.

- Clarify your role on the team. Ask what is expected of you and deliver it. Show your interest.
- Offer to help other members of your team with their patient care if you fulfill your other responsibilities. This cooperation will allow you to make a greater contribution to patient

care and give the team more time for teaching. Offer to research topics and contribute educational presentations in teaching conferences.

- Ask for guidance in your reading. Bring what you have learned back to the team. Ask questions when you cannot find the answers yourself.
- Ask for feedback. Respond to the feedback you receive.

CHAPTER 5: HOW TO PRESENT A PATIENT

The oral case presentation is arguably the most important skill you need to be successful in your clinical education. Although direct observation of clinical skills is ideal, much of your clinical skills may be judged indirectly through interpretation of your presentations. Also, the clarity and accuracy of your presentations will largely determine how much direct involvement you are allowed in communicating with consultants, supervising physicians, and primary care providers.

You should expect to present regularly over the course of the clerkship in a number of different settings. For example, you will likely present your new patients to an attending and the rest of the team the morning after admission; you may need to give a brief presentation to physicians who are asked to consult on your patients; and formal oral presentations may be part of the course requirements. To present a case well, you should practice and you should take into account the intended audience and goal or purpose of the specific presentation. Ideally, the oral presentation should give the audience a vivid picture of the patient and the patient's medical problems and should make a strong case for your assessment and plan. While the oral presentation follows a similar basic format, it is less detailed than the written history and physical; in general, only "pertinent" information is included. It may be hard to know what is pertinent so consider asking for help as you prepare your presentation. Sit down with a resident who is familiar with your patient and go over what should be mentioned and what left out. This preparation is not cheating; it is learning.

Each of your supervising physicians will have a preference as to how an oral presentation should be given, and will likely stop you to ask you for more information. It is best not to keep asking at each step how much the attending wants to hear; give the presentation you think appropriate, and let the attending stop you if he or she wants to. Do not get flustered when you are asked questions. If you are not asked questions, it means you put too much information into your presentation. Flexibility is necessary to meet the specific needs of the situation and the needs of the audience; it is safest to stick just to the basics. Here are some guidelines.

GENERAL RULES

- Practice reciting the presentation beforehand. This preparation is painful, but critical.
- Sit or stand up straight and do not fidget.
- Articulate, enunciate, project, and provide appropriate inflection to important points. If you do not succeed in keeping your audience awake, they will miss subtle points in your presentation.
- Never read directly from your written H&P. Refer to notes only if necessary.
- Adhere rigidly to the H&P format: CC, then HPI, then past medical history (PMH), etc. Make the transition between each section clear and keep the sections separate.
 - Do not discuss physical exam (PE) findings in the history.

- PE should contain report and describe information you gather by looking at, listening to, or touching the patient.
- Do not put your conclusions or interpretation in the primary data section.
- Keep your presentation five to 10 minutes long (when given without interruptions).
- Do not interrupt your presentation to apologize for deficiencies in your information, ask questions of the attending, or make editorial asides about the patient's story. It is best to keep it formal.

SPECIFIC COMPONENTS

The History of Present Illness

Generally, the HPI makes up 30-50% of the total presentation and is chronological, attentive to detail, and inclusive of pertinent positives and negatives. It should flow like a story and be free of tangents or editorial comments. Make sure to begin with an orienting statement that informs your audience of major demographics. For example, an 82-year-old nursing home resident differs greatly from a previously healthy 23-year-old college student or a 45-year-old liver transplant recipient. However, avoid the temptation to include a lengthy past history at this point.

If there is information in the PMH, family history, social history, or review of systems that is vital to the case, it should be mentioned in the HPI. At this point, you will need to make hard decisions about pertinence. There are no rules for what should be mentioned and what should be left out. If a young person is presenting with chest pain, family history is pertinent; if a 90-year-old is presenting with pneumonia, it is not.

Presenting the Rest of the Past Medical History, Family History, and Social History

How much to include from the rest of the history depends on the time available to present the case and the purpose or teaching focus of the rounds. The managing team usually prefers to hear a concise listing of all medical conditions, medications, and allergies. Some attendings prefer to hear the social context that gives a picture of who the patient is as person.

Consider the time available and audience to determine how much of these sections to include. Never present the review of systems in its entirety, which is better left to the written database.

Presenting the Physical Exam

The PE should be presented in an orderly manner, presenting enough information so that the listener knows your exam was thorough. A few things should always be included:

- General appearance (describe the patient vividly; paint a picture for the audience)
- Vital signs (never just "stable")
- All abnormal findings
- Normal findings if they pertain to the patient's major problems

Presenting Test Results

Include only data that was available when the patient was admitted or when you formulated your assessment. If you like, you can give a follow-up at the end of the presentation. Include only the most important pieces of data, which may include normal studies. Never read through the whole list of results.

Presenting the Summary Statement and the Assessment and Plan

The summary statement is one or two sentences summing up the important aspects of the history, PE, and data findings. Translate the case into terms that characterize illnesses as much as possible at this point. “Episodic severe unilateral throbbing headaches with a preceding aura” goes a long way toward suggesting a specific diagnosis to anyone familiar with migraine.

Each problem should then be addressed with its own assessment and plan. Your assessment should include a brief discussion of the major problem under diagnostic consideration, its differential diagnosis, and which diagnosis is most likely and why (using only the data you have just presented). For chronic medical conditions, assess the condition as specifically as possible, e.g. “uncontrolled type 2 diabetes complicated by stage 3 diabetic nephropathy, retinopathy, and gastroparesis.”

Your plan should include the initial diagnostic and/or therapeutic strategies. The rationale for each element of the plan should have appeared in the preceding assessment.

Be Prepared for the Discussion that Follows

You should make sure that you are very knowledgeable about the differential and about the pathophysiology of the patient’s most likely diagnoses. If there is time, you may be asked to educate the audience about the patient’s problems.

CHAPTER 6: SUGGESTIONS FOR SUCCESS IN THE AMBULATORY SETTING

Although the acuity gained is usually slightly less than in the inpatient setting, the outpatient arena is a place of significant and rapid diagnostic and therapeutic decision-making. It can be an equally exciting environment in which to learn. The role of the student in the ambulatory setting is usually more hands-on than in the inpatient setting. In contrast to your inpatient experience, you will often be the initial person to acquire the history from a patient. The most important skills for success in the ambulatory internal medicine setting are efficiency, organization, and the abilities to think on your feet and tap into a solid knowledge base. A successful ambulatory experience will help you acquire skills you will use throughout your career, no matter which specialty you choose.

Patients see physicians in general medicine or primary care clinics to get a “general check up” or for specific concerns. You may see new patients who present to establish themselves with a primary care physician (i.e. no chief complaint), patients with an acute complaint, or patients with chronic medical problems requiring close and frequent follow-up. You may be working with a single general internist in one-on-one sessions or you may be part of a group working with one or more supervising physicians.

It is strongly recommended that the ambulatory experience not be completely shadowing. Whenever possible, students should independently interview, examine, and assess patients, prior to seeing the patient with the preceptor.

SUGGESTIONS FOR WORKING WITH YOUR PRECEPTOR

When you first meet with your preceptor (the physician you will be working under), it is important to establish several things.

Logistics

- General information about how the clinic is set up.
- What time clinic starts and when you should arrive.
- How will you know when a patient is ready to be seen?
- Will the attending pick specific patients for you?
- Where should you document your note? How detailed should it be?

Degree of Independence

- Will you be shadowing the preceptor? If so, does the attending want you to ask any questions or just observe?
- Will you be seeing and examining the patient entirely on your own and then presenting to the preceptor?
- Sometimes the attending will ask you to collect the history and then conduct the examination together.

Organization of a Patient's Visit

- How detailed should the physical examination be?
- How much of the exam do they want to do together?
- How much time is allotted for you to take the history, conduct the exam, and present the case?

- How are test results communicated to the patient? How should you follow-up on test results?

In the outpatient setting, timing and efficiency are especially important. Because patients are scheduled for specific times, there is less flexibility than in the inpatient setting. When a patient requires, for example, 20 minutes more than allotted, that means the preceptor is 20 minutes behind for all patients that follow, unless time is made up with other patients. Some preceptors have a greater propensity and a greater tolerance for running behind, and this issue may vary with the day (e.g., if your preceptor needs to attend a meeting or pick up a child at daycare). Office-based preceptors generally recognize that having a student in the office usually adds some time to their day. Nevertheless, students should be sensitive to their preceptors' efficiency and time demands, so that you will be able to help your preceptor meet personal and professional obligations as you meet yours. Further, if time permits, a way to "give back" may be to assist in coordinating services or counseling patients in preventive health matters such as diet, exercise, and smoking cessation.

SUGGESTIONS FOR THE OUTPATIENT VISIT

New Patients/Annual "Check-Ups"

The structure of the new patient visit will vary in general and subspecialty clinics. Overall, you should collect a history of present illness if the patient has a chief complaint. If not, collect a past medical, surgical, gynecological, and psychiatric history as appropriate; inquire about medications, drug allergies, family history, and preventive health. The latter is of particular importance in the primary care clinic. You should ask about vaccination status, screening, vitamins, and alternative therapies.

Follow-Up Clinic Visits

Outpatients frequently do not have a chief complaint; they frequently have multiple complaints and conditions. As follow-up clinic visits are generally brief, you may not be able to cover all of the patient's concerns in one visit. A physician must set an agenda with the patient that covers his or her most significant concerns as well as the physician's.

Suggested Structure for the Outpatient Interview

- Prepare. Find out what the patient's medical problems are by briefly reviewing the chart or discussing the history with your preceptor. Focus on highlights such as the problem list, flow sheets, and the most recent progress notes since you cannot read the entire chart in the time available.
- Negotiate an agenda:
 - Ask the patient what his or her concerns are.
 - Prioritize concerns by the problems that are most concerning to you and to the patient.
 - Tell the patient your agenda; most frequently, this prioritization will involve establishing the status of chronic medical problems. "Dr. Smith tells me you have high blood pressure and diabetes. How are doing with your blood pressure and blood sugar?"
 - When the patient has more concerns than can be covered, let the patient know that you would like to hear more about those concerns later. "Let's talk some more about your chest pain and hypertension. I'd like to hear more about your concerns about menopause but since we have a brief visit scheduled today, can we cover that in more detail at another time?"

- Gather the data:
 - Conduct a focused history with targeted review of systems. For example, in a patient with diabetes, you may want to ask about polyuria and polydipsia.
 - Perform a targeted yet appropriately thorough physical exam.

- Collect your thoughts:
 - What are the major issues?
 - What are the most likely differential diagnoses?
 - Do you have time to quickly read up on your patient's complaint?
 - What is your assessment and plan?

- Present the case:
 - Identify the patient: "Mr. Smith is a 50-year-old man with hypertension and diabetes who presents for a routine three-month follow-up."
 - Review the agenda: "In addition to reviewing his chronic medical problems, the patient also wanted to discuss left knee pain."
 - Present the problem list:
 - Knee pain: "The patient has had knee pain for six months. It is worsened by ..."
 - Diabetes: home blood sugars (average, lowest reading, highest reading), last eye exam, foot care, etc.
 - Hypertension
 - Health maintenance
 - Present the physical examination.
 - Present your assessment: "Overall, Mr. Smith is doing well. His diabetes and hypertension are adequately controlled. The differential diagnosis for his knee pain is osteoarthritis, gout, and pseudogout. I think it is most likely..."
 - Present your plan:
 - "For his knee pain, x-rays will help to confirm the diagnosis of OA. He can try Tylenol for the pain. We should avoid NSAIDS in diabetic patients, if possible."
 - "For his diabetes, check hemoglobin A1C, etc."
 - "For his hypertension..."
 - "For his health maintenance..."
 - Discuss follow-up appointments and referrals.

- Follow through: check test results and communicate them to the patient as arranged with your preceptor.

A "learner-centered approach" to the presentation that can be useful is the **SNAPPS** model:

Summarize briefly the history and findings.

Narrow the differential to two or three relevant possibilities.

Analyze the differential by comparing and contrasting the possibilities.

Probe the preceptor with questions about uncertainties, difficulties, or alternative approaches.

Plan management for the patient's medical issues.

Select a case-related issue for self-directed learning.

CHAPTER 7: PROFESSIONALISM

The development of professionalism is an explicit and important goal of your clerkship. In 2002, the American Board of Internal Medicine Foundation, American College of Physicians Foundation, and the European Federation for Internal Medicine wrote a charter on professionalism that has gained widespread support (see the charter at www.abimfoundation.org). It starts by stating that “professionalism is the basis of medicine’s contract with society.” Society gives the profession of medicine the responsibility of self-regulation to maintain our high standards. If we are not good stewards of this responsibility, society may take the privilege of self-regulation away.

The fundamental principles of professionalism are primacy of patient welfare, patient autonomy, and social justice.

The charter’s set of professional responsibilities are a commitment to:

- Professional competence.
- Honesty with patients.
- Patient confidentiality.
- Maintaining appropriate relations with patients.
- Improving quality of care.
- Improving access to care.
- A just distribution of finite resources.
- Scientific knowledge.
- Maintaining trust by managing conflicts of interest.

In daily professional life, some of these principles are occasionally at odds with one another; in these situations, a physician must recognize and effectively negotiate conflicts between competing professional values. To face these professionalism dilemmas most effectively, a physician must understand his or her personal limitations, including what triggers high stress or high emotions. Recognizing when you are under stress or not at your best is the first step toward maintaining resiliency in professionalism.

The language and conduct of residents and other physicians that you observe convey powerful messages about the culture of hospital wards and clinics. Often referred to as the “informal” or “hidden curriculum,” its impact should not be underestimated. Be aware that you will likely be influenced greatly by this aspect of clinical training – often not in the best of ways. Since you are so new to this culture, it is particularly easy for you to assimilate these “norms.” Through a mindful and self-reflective approach, you can better manage that impact and keep more to the values and ideals that you brought with you to medical school.

There are a number of ways to grow your level of professionalism over the course of the clerkship.

- Do your best to get to know your patients well. Understand who they are. Treat every patient as you would hope your family member would be treated. As you invest in your patient, they will invest in you, which will allow you to experience something that you

may not have before—a true therapeutic relationship. Follow your patients over time; find out how they are doing after they left the hospital service.

- Be an advocate for your patient whenever necessary. Discover for yourself what Francis W. Peabody, MD, articulated: “the secret of the care of the patient is in caring for the patient.”
- Reflect actively on your actions and experiences on a regular basis. After each interaction, especially when you find you have strong emotions, spend some time considering and analyzing what you have experienced. Write it down. Discuss your thoughts with your peers and advisors.
- Have empathy for others- your patients, your colleagues, and everyone who is part of the health care team. Always ask: “Why might a reasonable person do this? ”
- Be honest with yourself and others. It is honorable to say, “I don’t know, but I will find out.”
- Work to improve the quality of the system in which you work. Every medical system has weaknesses, gaps, inefficiencies, and processes that allow errors to occur. Every individual will be faced with stressful situations in which he may not be at his best. Be a part of the solution. Consider ways that the system might be improved and pass them along.
- Learn from mistakes—yours and others. You will make mistakes, in medical decisions and in professional behaviors. As a learner, you do not yet have all the knowledge and skills to practice independently or to be professionally resilient. Strive to never make the same mistake twice. Share your experiences with your colleagues, so they can share in your learning.

If any problems occur during your clerkship, let your clerkship director know as early as possible. The clerkship director is your advocate and your coach through a tough situation.

CHAPTER 8: CONCLUSION

The internal medicine clerkship is one of the most important experiences of medical school. Regardless of what specialty training you ultimately pursue, you will unquestionably advance your knowledge and skills during this clerkship.

Ultimately, we will view this as a successful clerkship experience if it makes you a better caregiver, improves your skills, helps you become more professional, improves your confidence, and guides you in career choices. You will be one step further to what you ultimately become—a skilled, caring, knowledgeable physician in the area of your choice.

You will only have one opportunity to learn from this internal medicine clerkship. As much as we may try to make experiences consistent, no two medicine clerkships are ever the same—from school to school or from student to student. You, your patients, your team, your preceptors and attendings, and your hospital and clinics will ultimately determine the outcome of the experience. The clerkship will shape you, even if in small ways.

We encourage you to do everything that you can to make the very most of this experience. We hope that this handbook has served as a guide of how to do exactly that. While you will likely face frustrations in dealing with uncertainty and emotional challenges when your patient's health fails, we wish you the very best experience possible. If you do not find the clerkship exhilarating and fun most of the time, then something is not right. Let your clerkship director know so that changes can be made to get things back on track. We genuinely feel privileged to accompany and guide you on this important professional journey.

APPENDIX 1: IF YOU ARE THINKING ABOUT INTERNAL MEDICINE

Not every student who comes through the internal medicine clerkship will ultimately choose to specialize in internal medicine. However, a substantial number of students will eventually choose to pursue internal medicine. It is by far the most frequently chosen residency, and there are more residency positions in internal medicine than in any other specialty. Additionally, internal medicine residency training is frequently combined with other specialty training, including pediatrics and psychiatry. Given the wide variety of options the internist has upon completion of training (including practicing primary care, practicing subspecialty medicine, entering procedurally based fields, practicing hospital medicine, working with specialized populations, teaching medical students and residents, conducting quality improvement work, and entering industry), the flexibility that internal medicine offers will likely continue to make it a frequently chosen career path for medical school graduates.

While the ultimate function of the clerkship is not to entice you into entering internal medicine practice, we hope that you are interested in learning more about what a residency and career in internal medicine offers.

WHY DO MOST PEOPLE CHOOSE INTERNAL MEDICINE?

Many reasons are frequently cited for pursuing internal medicine as a career. Obviously, caring for adult patients is a cornerstone of the discipline. Most internists also state a love for the diagnostic process, the “detective work” that comes with analyzing a patient’s problems. Many physicians in internal medicine express a desire to be actively involved in the care of inpatients and outpatients. Some clearly want to follow patients over time, experience continuity, and make a lasting impact on their patients.

Students who choose internal medicine express an affinity for the training, which tends to be intellectually and educationally rigorous, where colleagues are collegial, professional, and respected. Medical students also pursue internal medicine to enter a specific subspecialty or to learn specific procedures. Many students may consider lifestyle issues when considering internal medicine; the lifestyle of an internist tends to be very manageable, although it obviously varies widely across physicians and areas of the practice.

WHAT ABOUT LIFESTYLE? HOW HARD DO INTERNISTS WORK?

The tremendous range of lifestyles in internal medicine reflects the wide variety of practice types and styles within internal medicine. Many fields have essentially a 9:00 a.m. to 5:00 p.m. schedule, and some fields require longer hours and more overnight call. For example, if you choose to become an interventional cardiologist, you know that patients may occasionally need a coronary intervention in the early hours of the morning. Many internal medicine careers do have some degree of overnight call, but the extent and nature of call may vary tremendously depending on the number of patients and the number of physicians in the practice or coverage group, and the specific needs of

patients. Many hospitalist groups work shifts. Additionally, internal medicine allows substantial flexibility to practice on a part-time basis. All internists recognize the desire to build a family and to preserve personal time. Many people within internal medicine achieve the desired level of balance between professional and personal life.

HOW WELL ARE INTERNISTS AND SUBSPECIALISTS OF INTERNAL MEDICINE REIMBURSED?

We ultimately hope that our future physicians will choose a career based on the enjoyment and satisfaction that the field produces, as this will likely produce long-term fulfillment. However, compensation is an important variable most students consider. Data on compensation of various specialties are widely available; we have not included them here due to space limitations. A review of these data demonstrate that internists earn compensation to support a very comfortable lifestyle; some subspecialties earn more than others, particularly in the private sector; and compensation for internal medicine and its subspecialties is on par with other major specialties.

WHAT DOES AN INTERNAL MEDICINE RESIDENCY CONSIST OF?

Internal medicine is a three-year residency program. There are two main types of internal medicine residencies: categorical (or traditional) and primary care. You may find additional tracks of residencies (e.g., women's health and hospital medicine), but these are the most common. Generally, categorical residencies are more heavily hospital-based. Residents spend most of their time on hospital medical wards, in intensive care units, in subspecialty services, in the outpatient setting, and in the emergency department.

All internal medicine residents have a continuity clinic in which they follow their own patients (with supervision) over time. Continuity clinics are required to occur at least one session (approximately four hours) per week, regardless of the resident's monthly rotation assignment.

In primary care tracks, medical residents spend a higher percentage of their time in the outpatient setting, especially after their internship year. Regardless of the track, residents can still choose a variety of career options at the end of training, including an outpatient or hospitalist practice or further training in a subspecialty.

In the majority of internal medicine programs, the internship year is the most intense year of training with the most months of direct patient care and fewest electives. During direct patient care months, there is virtually always in-house backup from an upper-level resident. Call schedules vary from program to program, but they tend to range from every fourth to sixth day on call. In the second and third years of an internal medicine residency, residents have progressively more independence and more time for elective rotations, during which residents have more flexibility in their schedules. Some residents choose to do research, some choose clinical electives on site, and some travel elsewhere. There tends to be a fair amount of flexibility to the training as a whole.

HOW DIFFICULT IS IT TO GET INTO AN INTERNAL MEDICINE RESIDENCY PROGRAM?

Top internal medicine programs remain extremely competitive. Students who match at top internal medicine programs often have sustained superior clinical performance on their clerkships and fourth-year rotations, obtained Alpha Omega Alpha (AOA) Honor Medical Society status, scored well on the United States Medical Licensing Examination Step I and Step II, and secured strong letters of recommendation.

However, for the majority of applicants and the majority of programs, it remains a “buyer’s market” with students who perform well typically entering a program of their choice. Because there are more internal medicine positions than any other positions, the current supply of internal medicine positions is greater than the demand from applicants. Therefore, overall it is not difficult to find a very good position in internal medicine. Internal medicine residencies typically offer a comprehensive teaching program and extensive supervision by skilled physicians; therefore, you do not need to attend the very top competitive programs to become very well prepared in internal medicine.

WHAT COMBINED INTERNAL MEDICINE PROGRAMS ARE THERE?

It is possible to complete a combined residency with internal medicine and other areas such as pediatrics, emergency medicine, family practice, preventative medicine, and psychiatry. These combined programs offer dual board certification eligibility with fewer years of residency than internal medicine (three years) and the corresponding specialty put together (e.g., pediatrics is three years; however, most medicine-pediatrics residency programs last four years).

There are some benefits and some disadvantages of pursuing a combined program. Some physicians feel students should pick one specialty and focus on it. Others support building careers by taking advantage of the overlap between the combined specialties. For example, some residents in medicine-pediatrics are interested in pursuing a career in adolescent medicine, while others plan to subspecialize and see patients of all ages in that subspecialty. For instance, a medicine-pediatrics specialist could further subspecialize in cardiology and focus on congenital heart disease. Some medicine-emergency medicine residents choose this route because they are interested in having an ambulatory practice in addition to working shifts in an emergency department. Some internal medicine-psychiatry residents select this training to prepare them to care for mental illness in medically complicated patients. Some residents in combined programs choose the longer training period to maintain options for career flexibility.

I'M INTERESTED! WHAT SHOULD I DO?

- Keep your mind open during all your clerkships. Actively consider what it is that you enjoy and that you can envision doing for the rest of your professional career.

- Work hard. Express enthusiasm for your work. Read actively and frequently. Embrace opportunities for patient care, learning, and presenting.
- Learn more about internal medicine. ACP has prepared a number of resources for students who are considering entering internal medicine. (www.acponline.org)
- Finally, identify an internal medicine advisor who can give you guidance about how to proceed as you plan your fourth-year courses, complete your residency applications, and conduct successful residency interviews.

If you remain unsure at the end of your clerkship, as many people do, do not get anxious. Your fourth year should allow you substantial opportunities to experience different aspects of internal medicine and other fields, and for most students, these additional rotations are helpful in determining career choice. Use an advisor who knows you well to help you find direction.

APPENDIX 2: BASIC CLINICAL DEFINITIONS

The following is a series of basic definitions of terms and types of people that you are likely to encounter over the upcoming weeks.

Attending physician: A physician who assumes ultimate responsibility for a patient's care. The physician who is ultimately responsible for all actions of patient care for any given patient is the "attending of record."

Chief resident: Usually has completed his or her training in internal medicine and was selected to spend an additional year coordinating operations of the residency with the program director. Activities usually include patient care, education, and administrative oversight of residents.

Consultant: A physician who is invited by the attending physician to provide recommendations for the care of the patient.

Fellows: Postgraduates who have completed residency in their specialty (e.g., internal medicine), but who has elected to perform additional subspecialty training (e.g., cardiology). Fellows work closely with subspecialty attending staff and frequently coordinate and are first contacts for subspecialty consultations.

Hospitalist: A physician, most commonly trained in internal medicine, whose primary professional focus is the care of hospitalized patients. This field is relatively new and a rapidly growing area within medicine.

Inpatient: Refers to care of patients who are hospitalized.

Internal Medicine: Adult medicine. Internists, practitioners of internal medicine, see patients from late adolescence through the geriatric years. Many people who train in internal medicine practice as adult primary care physicians, based primarily in the office while also caring for patients in the hospital. Some internists restrict their practice to the office only, while others restrict their practice to the hospital (hospitalists). Forty percent of internists elect to specialize in general internal medicine, while about 60% of internists pursue fellowship training in one of the subspecialties of internal medicine (see "Subspecialist" below). Many of these people ultimately practice only their subspecialty, but many also maintain skills and practice in general internal medicine as well.

Interns: Residents in their first year of residency training (PGY-1). Internship is typically the most intense year of residency during which many basic skills are acquired. Do not confuse the term "intern" with an internist, a physician who practices internal medicine (though many lay people do make this error).

Outpatient/Ambulatory: Refers to care of patients who are not in the hospital. Ambulatory, meaning "able to walk," is applied to describe the care of patients in clinics or offices.

Program Director: A physician who assumes ultimate responsibility for the residency program. Responsibilities include program credentials, training certification of graduating residents, annual schedules, and the resident’s emotional/behavioral well-being.

Residents/Trainees/Housestaff: Residents have completed their medical school training, have their doctoral (MD or DO) degree, but are not yet eligible for autonomous practice. All postgraduate students must complete a “residency” in the area of their choice; residency in internal medicine is traditionally three years in duration. Residents are typically described by the year of their training. For example, a junior resident is a resident in their second postgraduate year (PGY-2). A senior resident is typically PGY-3.

Rounds: There are several different types of rounds. “Rounds” most typically refers to morning walk rounds or work rounds, during which the team will see all the patients on the service. Rounds typically include briefly reviewing the patient’s history, the status of active problems, the medications that the patient is taking, and the vital signs or intake/output for the previous 24 hours. These reviews are followed by patient interviews and examinations. Ideally, the plan for the day will be determined. “Pre-rounds” is typically an individual activity in which the student will see all of his or her patients and gather information prior to the entire team visit. “Attending rounds” is commonly the term for a teaching session in which the team will discuss cases and learn from their patients with the team’s attending.

Sub-intern or acting intern: A fourth-year medical student preparing for residency, working as independently as possible but with resident supervision to provide direct patient care.

Subspecialists: Internists who practice a specialty other than general internal medicine.

A number of subspecialties exist within internal medicine, including:

Allergy and Immunology	Geriatric Medicine
Cardiology	Nephrology
Endocrinology	Oncology
Infectious Diseases	Pulmonary and Critical Care
Medicine	
Hematology	Rheumatology

Many of these subspecialties have additional paths of specialization, for example, invasive cardiology or hepatology.

APPENDIX 3: THE PEOPLE YOU WILL WORK WITH, INTERACT WITH, AND LEARN FROM DURING YOUR INTERNAL MEDICINE CLERKSHIP

In addition to the resident and faculty physicians, you will work with many other people during your internal medicine clerkship. All of these people are part of a large multidisciplinary team that participates in the care of patients. There is an interdependency of all members to do their jobs well to take the most effective care of patients; therefore, it is important to be able to work well with all of these extended team members.

Ancillary staff includes the many additional non-physician providers who may interact with your patients:

- **IV therapists** place saline locks and more durable longer lines.
- **Occupational therapists** evaluate patients' fine motor and cognitive skills to determine their abilities to effectively care for themselves.
- **PharmDs** reconcile drug lists, provide patient education regarding new medications, and help monitor certain drugs (heparin drips, peak/trough antibiotic levels).
- **Phlebotomists** draw blood.
- **Physical therapists** prescribe exercises and evaluate strength and balance to determine if patients can safely return home.
- **Speech therapists** evaluate patients' abilities to swallow in the event of neurologic injury or muscular weakness of the oropharynx.

Case managers are typically nurses or social workers whose primary responsibility is to assist the provider team with achieving timely and appropriate discharge of patients. They are invaluable in securing outside services, coordinating follow-up, and getting patients screened for placement in rehabilitation facilities or nursing homes.

Nurses are responsible for safely and promptly executing the plan of care and are the first line in addressing patients' emotional needs while hospitalized. They administer almost all medications, coordinate transportation, educate, and discharge. If something needs to get done rapidly for the patient, it is best to discuss it directly with the patient's nurse.

Nurse's aides, or patient care aides, are assistants to nurses. Nurse's aides may have a variety of responsibilities—lifting or moving patients, measuring and recording vital signs or blood sugars, drawing blood, bathing, toileting, ambulating, and feeding patients.

Unit secretaries are stationed at the front of the ward. They are responsible for answering phones, responding to patient calls, and perhaps most importantly, transcribing orders. In most hospitals (those that do not have computerized provider order entry), the

secretary will transcribe orders into a computer system or onto paper medication administration records. The unit secretaries will likely know if blood has been drawn, if a patient has left the floor, or if a test has been ordered.

It is very important to understand the role of each member of the team and effectively communicate with all of them so that patients receive the most effective care.

Finally, you will be working with patients. While autonomy and confidentiality are principles that must always be honored, realize that often patients invite family members or others very close to them to play a central role in their health care. These individuals also need and deserve your care and attention.

It bears noting that your patients will come from all walks of life and may have very different abilities or styles of communication. Some will not speak the same language. Since the stresses of illness can bring out the worst in people, some may be angry or offensive while others may be entitled and demanding. Some may be severely disabled or unable to communicate at all. At times, it may be tempting to pass judgment on those we treat. Strive at all times to follow Maimonides' recommendation: "May I never see in the patient anything but a fellow creature in pain".