Primer to the Internal Medicine Clerkship

A GUIDE PRODUCED BY THE CLERKSHIP DIRECTORS IN INTERNAL MEDICINE

Editor and Co-Author:
ERIC J. ALPER, MD
University of Massachusetts Medical School

Co-Authors:

JOEL L. APPEL, DO
Wayne State University School of Medicine

WALTER N. KERNAN, MD
Yale University School of Medicine

THOMAS M. DE FER, MD
Washington University School of Medicine

TAYLOE LOFTUS, MD
State University of New York Upstate Medical University

D. MICHAEL ELNICKI, MD
University of Pittsburgh School of Medicine

PHILIP A. MASTERS, MD
Pennsylvania State University College of Medicine

MARK J. FAGAN, MD
Brown University School of Medicine

K. PATRICK OBER, MD
Wake Forest University School of Medicine

SHIPHRA GINSBURG, MD
University of Toronto Faculty of Medicine

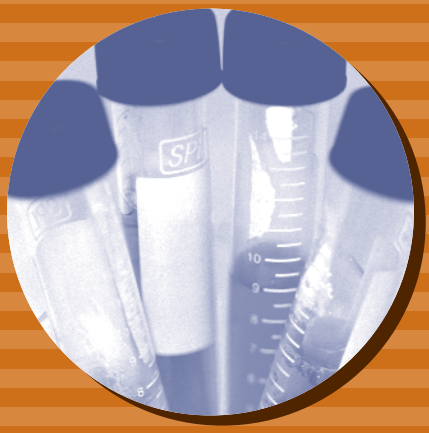
SHALINI REDDY, MD
University of Chicago Pritzker School of Medicine

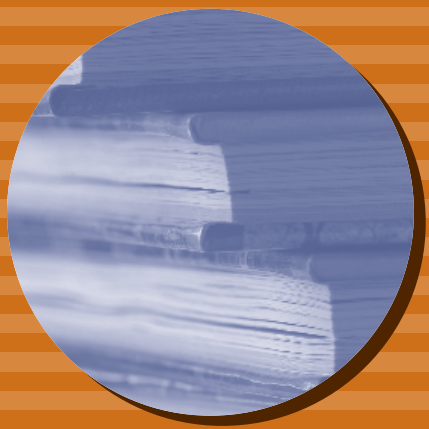
PAUL A. HEMMER, MD
Uniformed Services University of the Health Sciences F. Edward Hébert School of Medicine

DEBBIE J. STEVENS
Pennsylvania State University College of Medicine

RAJIV SWAMY, MD
University of Chicago Affiliated Hospitals

WARREN HERSHMAN, MD
Boston University School of Medicine





December 2004

CDIM

Top 10 Ways to Excel on the Internal Medicine Clerkship

1. Find out what your preceptors expect of you. Meet and try to exceed their expectations.
2. Go the extra mile for your patients. You will benefit as much as they will.
3. Go the extra mile for your team. Additional learning will follow.
4. Read consistently and deeply. Raise what you learn in your discussions with your team and in your notes.
5. Follow through on every assigned task.
6. Ask good questions.
7. Educate your team members about what you learn whenever possible.
8. Speak up—share your thoughts in teaching sessions, share your opinions about your patients' care, constructively discuss observations about how to improve the education you are receiving and the systems around you.
9. Actively reflect on your experiences.
10. The more you put in, the more you will gain.

Be caring and conscientious and strive to deliver outstanding quality to your patients as you learn as much as you can from every experience.

Introduction

Welcome to your internal medicine clerkship. We are genuinely delighted to have you join us for this short period. On the clerkship, you will likely only get 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 drives you to want to learn more and experience more of what internal medicine has to offer. We wish you the most exciting, stimulating, rewarding, and transforming experience possible over the upcoming weeks.

The information in this booklet has been produced by 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 insights of students who recently completed their clerkship. We try to provide the most generic, common, reliable, "tried and true" approaches to the clerkship. We hope that this guide will provide you with knowledge and perspective that will last you well beyond your internal medicine clerkship experience.

It is important to note that information provided by your clerkship director should take precedence over the suggestions that you find here.

TABLE OF CONTENTS

Goals for the Clerkship

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

For the specific goals of your internal medicine clerkship, consult the material your clerkship director has provided. Many clerkship directors use the national Clerkship Directors in Internal Medicine/Society of General Internal Medicine Core Medicine Clerkship Curriculum for the clerkship. You can access this guide at www.im.org.

> ***"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.***

In seeking to achieve the goals of the clerkship, we believe it is important for you to understand what internal medicine is and the ideal internist. Internal medicine is, in the broadest sense, medicine for adults. It is the largest specialty by far. It is a major part of the overall landscape of medicine. It spans adolescence to the ever growing elderly population. Practitioners include primary care general internists, who see adults who may present with any problem at all. All information goes back to and through them. Internal medicine also include subspecialists such as cardiologists, nephrologists, oncologists, critical care physicians, and many others who focus on care of patients with specific disease types or single diseases (see Appendix 1 for additional details). Many subspecialties of internal medicine are heavily procedure based.

An internist's practice may be mostly office-based or hospital-based. The internist coordinates the care of the whole patient, working in concert with colleagues, values a strong patient-doctor relationship, and applies the best scientific evidence. The internist is the clinical problem-solver who is able to integrate pathophysiologic, psychosocial, epidemiologic, and "bedside" information to address urgent problems, manage chronic illness, and promote health. Internists frequently participate in research; many teach students and residents.

BASIC PROFESSIONAL EXPECTATIONS

- ⇛ 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 may influence the way that you are perceived by your patients. If you have any question about what constitutes professional dress, consult with your clerkship director.
- ⇛ Treat every member of the health care team, the clerkship team, and every patient with respect.
- ⇛ 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.
- ⇛ 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.

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 needs to be self-directed. It is essential that you read regularly to answer the questions you encounter each day. Take responsibility for your own education. Make sure that through your reading, experiences, and didactics, you meet the goals of the clerkship.

- ⇛ Understand and clarify, if necessary, the expectations your residents, attendings, and course directors have of you.
- ⇛ Keep a list of questions that arise during your day and seek the answers.
- ⇛ Be an active participant in your patients' care. Be the "go to" person for all 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 acting the part is very important. As a junior member of the team, it is generally best to be malleable and "go with the flow" of your team. However, if you have an important question or concern, it is equally important that you (and every other member of your team) ask the question or express the concern. Your statements will often result in a valuable contribution to the education and work of the team and to patient care.
- ⇛ Try to be observed and solicit feedback on a regular basis, both positive and constructive. Constructive feedback is essential to your growth in your third year, as it is for all of us.
- ⇛ Learning moments may come when you least expect it. Pay attention at all times, even when the focus is not on you or your patient.
- ⇛ Strive to practice evidence-based medicine. It is our responsibility to bring the best scientific evidence to every clinical decision that we make. Use evidence-based clinical practice guidelines and standard order sets whenever possible and learn from them.
- ⇛ Demonstrate that you are a self-directed learner; read during the medicine clerkship. Your education will depend on it.
- ⇛ Learn from your patients whenever possible. Read about all of your patients in depth. The goal is to integrate your basic science knowledge and its application to your patient.

It is important for you to gain broad knowledge about the spectrum of medical illnesses as it may 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 textbook of medicine,

one which you can read in depth, ideally from cover to cover, over the course of the clerkship (examples include Cecil *Essentials of Medicine*, Pauuw's *Internal Medicine Clerkship Guide*). A textbook of medicine is recommended for most patient-related reading (*Harrison's Principles of Internal Medicine* or *Cecil Textbook of Medicine*). 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 will also want to have access to small texts 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* also serve this function. These books can be purchased for PDAs for slightly more than the print counterparts (www.skyscape.com has many titles). However, they will not be adequate for helping you understand differential diagnosis, pathophysiology, etc. When it comes time to prepare for the clerkship final examination, many students use *MKSAP for Students*, an excellent resource produced by the American College of Physicians and the Clerkship Directors in Internal Medicine, consisting of questions with detailed explanations.

UpToDate is an excellent electronic resource for specific clinical questions. However, it 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 single-page summary; be prepared to present this synopsis to your team. You should do at least one topical presentation per four-week rotation. 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 is a nice touch.

Suggestions for Success in the Inpatient Setting

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

⇛ Actively and enthusiastically participate in rounds. (See appendix for definition.)

⇛ 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 doctor is a very hectic business. There is a lot to remember. Start training yourself to be organized now!

⇛ 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

You will usually have new patients assigned to you on call days. Your initial interaction with them will generally consist of performing a complete history and physical examination (H&P). Yours should be the most thorough assessment of the patient. Thorough does not automatically imply long! Being concise without sacrificing thoroughness is an important skill. It is not at all unusual for the medical student to be the only one who obtains a crucial piece of information that substantively changes the management of the patient.

⇛ Perform as many H&Ps on your own as possible.

⇛ The H&P should be thorough yet focused. The differential diagnosis for the patient's problems should drive what you ask and what you perform.

⇛ Begin with open-ended questions first 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 time efficiency and minimizes patient discomfort. The old-fashioned head-to-toe method still works well for the large majority of patients.

⇛ A focused exam is rarely a single system. For example, for a patient with shortness of breath, one needs to examine the neck for jugular venous distention, the extremities for edema, tenderness (DVT?), and clubbing, the abdomen for splinting or masses…in addition to the lungs and heart.

⇛ Perform examinations like funduscopic exams, rectal examinations, male and female GU examinations (chaperoned) whenever possible to improve your comfort and to learn to distinguish normal from abnormal.

THE WRITTEN HISTORY AND PHYSICAL

One of the major goals of the internal medicine clerkship is for you to learn how to communicate medical information and your 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 for integrating 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, and what you want to do.

There are many different ways of doing 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 the facts.
- ⇛ Write your history of present illness (HPI) to tell the story chronologically and with all relevant details. When reading your HPI, the reader should be able to determine the diagnostic possibilities that you are considering and what is most likely.
- ⇛ Write in a way to identify information you forgot to gather. Go back and get the information you need.
- ⇛ Document a thorough past medical history and complete medication list. This step is essential to providing safe, high quality care, even though you may not always recognize why.
- ⇛ Document general appearance and vital signs. Vital signs are vital.
- ⇛ Use only standard and widely accepted abbreviations; creative abbreviations confuse and slow the reader.
- ⇛ Never use dangerous abbreviations in the medication section (e.g., qd instead of "daily," _g instead of mcg, U instead of units, etc.). 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 the exam. Do a complete ECG reading 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?

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 to write. 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, what will ideally follow as your assessment is a differential diagnosis for the problem (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 with a single system (e.g., COPD, pneumonia, lung nodule). A problem-based approach is generally much more effective and appropriate.

In some cases, the problem will be a symptom (abdominal pain); in other cases, when a diagnosis is established by the data you have already collected, it will be a diagnosis (pancreatitis). For example, the headers for your discussion in the A/P would be:

Correct	Incorrect
Chest pain	Cardiac
Pneumonia	Infectious Diseases
Lung Nodule	Oncologic

BUILDING DIFFERENTIAL DIAGNOSES

Below are some common strategies utilized in generating a differential diagnosis. You will find that a particular strategy is more logically applied to some problems than others. You may also find that your way of learning is better suited to a particular strategy. You are encouraged to try the strategies listed below. Watch how your resident, attending, and other teachers utilize these strategies in approaching different clinical problems.

The Simple List

This consists of a short, memorized list of the possibilities. When the list is short and there is no other logical way to categorize the list, it is probably the most effective strategy. How short is short? Five or shorter for most of us.

EXAMPLE: What ingested substances cause an anion gap acidosis?

Aspirin, methanol, ethylene glycol, paraldehyde.

The Mnemonic Device

This is a device used to remember a somewhat longer list which does not lend itself to a more logical sub-categorization. If you can utilize a strategy that is based on pathophysiology or anatomy, it will serve you better than a mnemonic in the long run.

EXAMPLE: What is the differential diagnosis for an anion gap acidosis?

MUDPILES

Methanol, **U**remia, **D**KA, **P**araldehyde, **I**schemia, **L**actic, **E**thylene Glycol, **S**alicylate

The Anatomic Approach

The list is based on what anatomic structures are in the vicinity of the problem.

EXAMPLE: Chest pain

Skin/Nerves:	Herpes zoster
Bones/Nerves:	Disk disease with nerve compression, Costochondritis
Blood Vessels:	Aortic dissection, aortic stenosis
Organs:	
Heart:	Myocardial infarction, angina, pericarditis
Lungs:	Pulmonary embolism, pulmonary hypertension, pneumonia, pleurisy, pneumothorax
Esophagus:	Gastroesophageal reflux, esophageal spasm
Stomach:	Peptic ulcer disease
Gallbladder:	Gall stone disease
Muscles/ Connective Tissue:	Muscle sprain/strain

The Systems Approach

The list is based on the underlying mechanisms of the disease process in question. A complete listing will include all of the following systems:

Genetic/congenital	Metabolic
Mechanical/trauma	Vascular
Infectious	Toxic
Neoplastic	Degenerative
Inflammatory	Nutritional
Endocrinologic	Psychogenic
Immunologic	Idiopathic
Iatrogenic	

Some people use the following two mnemonics to help remember this list:

VITAMIN CDEψ	**VINDICATE**
Vascular	**V**ascular
Infectious/ inflammatory	**I**nfection/ inflammatory
Trauma/toxic	**N**eoplasm
Autoimmune	**D**egenerative
Metabolic	**I**atrogenic
Iatrogenic/idiopathic	**C**ongenital/ hereditary
Neoplastic	**A**utoimmune
Congenital	**T**oxic/metabolic
Degenerative	**E**ndocrine
Endocrine	
ψPsychogenic	

EXAMPLE: Fever (very abbreviated example)

Vascular:	Pulmonary embolism, phlebitis, CNS hemorrhage, aortic dissection, hematoma, vasculitis
Infectious/ inflammatory:	Infection: Viral, bacterial, fungal, mycobacterial Inflammatory: Inflammatory bowel disease, sarcoidosis, pancreatitis, atelectasis, connective tissue diseases
Trauma/ toxic:	Tissue injury: Pulmonary embolism, myocardial infarction, sickle cell crisis, hemolytic anemia Toxic: Scorpion bite, spider bite, snake bite, heavy metal poisoning, cocaine; phencyclidine, amphetamines
Autoimmune:	Rheumatoid arthritis, lupus, temporal arteritis, polymyalgia rheumatica, spondyloarthropathies, vasculitis
Metabolic:	Familial Mediterranean fever, porphyria, neuroleptic malignant syndrome, malignant hyperthermia, heat stroke
Iatrogenic/ idiopathic:	Iatrogenic: Drug fever, neuroleptic malignant syndrome
Neoplastic:	Lymphoma, leukemia, carcinoma, atrial myxoma
Congenital:	Familial Mediterranean fever, porphyria, cyclic neutropenia, Fabry's disease
Degenerative:	Ankylosing spondylitis (a chronic degenerative disease of the spine that is occasionally associated with fever)
Endocrine:	Thyrotoxicosis, pheochromocytoma
ψ Psychogenic:	Factitious fever

Of note, many diseases can be placed in multiple categories.

The Diagnostic Template

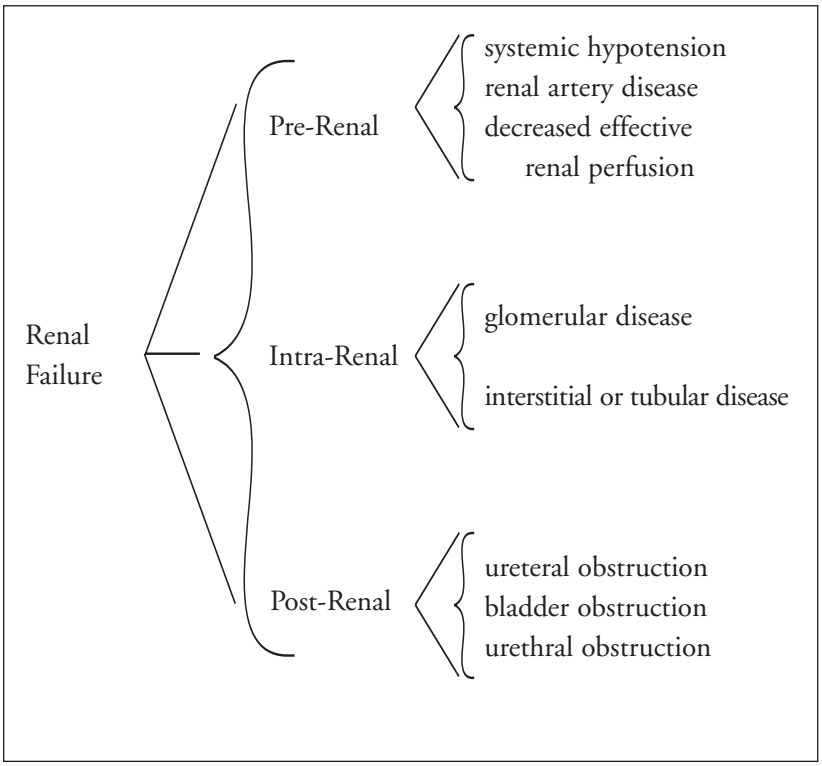
A diagnostic template is essentially an outline of a clinical problem structured according to medical concepts. In short, it is a way to think like a doctor. You can think of it as setting up a branching tree. Each branch can be considered (or ignored) based on a readily ascertainable clinical fact. There are three major advantages to the diagnostic template:

1. You are thinking medically, not just relying on your memory banks. Therefore, you can go back to the first principles and rebuild the template in your head if simple memory fails you (and it will at some point).

2. Once you have constructed a diagnostic template in your mind for a particular clinical problem, you can recall and recreate it any time that the problem arises in other patients.

3. Because it is based in medical thinking, it not only helps generate the differential diagnosis, but organizes your diagnostic approach as well.

EXAMPLE:



Pattern Recognition

Diseases and syndromes are distinctive patterns of clinical findings. Pattern or cluster recognition consists of choosing the chief points in a clinical scenario, connecting them, and associating them with a known disease or syndrome. Pattern recognition is a valuable skill. This tends to be the approach taken by experts. It does have important limitations:

1. If you do not pick out the "correct" cluster of findings, you may miss the diagnosis or make an incorrect diagnosis.
2. Patients may have many problems, and the key points may be buried.
3. Knowledge base and clinical experience limit pattern recognition. If you do not know the pattern, you cannot recognize it.

Trying several different clusters in a given patient can minimize all three limitations. Make sure you have a detailed history for each problem and think about each problem independently.

EXAMPLE: A 58-year-old woman presents with pleuritic chest pain, shortness of breath, cough, fever, and right lower leg swelling and redness. How can these symptoms be clustered?

Pleuritic chest pain Shortness of breath Unilateral leg swelling Pleuritic chest pain	Pulmonary Embolus
Pleuritic chest pain Shortness of breath Cough Fever	Pneumonia

At this point, you should return to the more detailed data to see how well it fits with one or more of these diagnoses.

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.

Reference: Charles L Bardes, MD., Essential Skills in Clinical Medicine, Philadelphia: FA Davis Publishing Company, 1996.

THE ORAL PRESENTATION

You will hopefully be doing presentations regularly over the course of the clerkship. For example, you will usually present your patient to your attending and the rest of the team the morning after admission. This is an essential means of communicating information about patients. Presentations often make students anxious. Remember, "practice makes perfect."

The degree of thoroughness, the length of the presentation, and the content that you include will depend upon the audience to whom you are presenting. Generally, HPI makes up 30 to 50 percent of the total presentation and is chronological, attentive to detail, and inclusive of pertinent positives and negatives. In the past medical history, major ongoing chronic medical problems should be summarized succinctly. Medications and allergies are always presented. The social history, family history, and review of systems can usually be compressed. If the information is key, it should probably be in HPI. Your exam should be orderly and include all the pertinent positives and negatives. Labs should be presented in an edited fashion (i.e., only abnormal values or normal values that are crucial to the diagnosis or excluding diagnoses).

Your assessment should include a brief discussion of the major problem(s), differential diagnosis of that problem, which diagnosis is most likely and why (using the data you have just presented), and the initial diagnostic and therapeutic strategy. If you have done additional reading or research, present that information concisely afterwards.

- ⇛ Ask your resident or attending if you are uncertain about how much information to give.
- ⇛ Practice! You may want to rehearse your presentation in advance.
- ⇛ "Tell the story" with minimal reference to notes. Do not read off a photocopy of your H&P. Have reference materials available if necessary.
- ⇛ Strive for five minutes; most listeners will be unable to attend for more than 10 minutes.
- ⇛ Answer questions to the best of your ability and pick up right where you left off. It is good if people ask you questions. If no one asks questions, you talked too long
- ⇛ Do not improvise information if you are not sure. If you do not know the answer to something that you are asked, it is OK to say you do not know.
- ⇛ Remember that the listener is creating, prioritizing, and re-prioritizing his/her own differential diagnosis based on what you say.
- ⇛ Remember that style counts! Your presentation should be tightly organized, smooth, persuasive, and confident.

Your attending may interrupt your presentation to probe you or the team to consider additional infor-

mation which might be relevant. Also, do not be surprised if your attending stops you after the diagnostic studies to teach.

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 their social, economic, personal background, and values. In other words, who is the person before me?
- ⇛ After diagnostic and therapeutic plans have been formulated with the assistance of your resident and attending, return to the bedside and discuss them with your patients.
- ⇛ Feel free to have personal and emotional 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, like 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 with your team and attending.

Show competency with patient care responsibilities.

- ⇛ Be fully prepared and on-time for work rounds everyday and have all pertinent data available. Have a daily plan for each of your patients.
- ⇛ Take the lead in talking with your patients during work rounds.
- ⇛ Try to be the first one to get the important pieces of information about your patients.
- ⇛ Have all notes and orders promptly co-signed. You may want to carry order sheets with you on rounds—discuss this strategy with your team.
- ⇛ With the guidance of your resident, contact and communicate with all consultants.
- ⇛ 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 a very instructive to write your own.)
- ⇛ Assist your interns with cross-coverage.
- ⇛ 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.
- ⇛ Pitch in and be of assistance to your resident and intern when your other responsibilities are taken care of. However, you should not do this to a degree that interferes with your self-directed learning.

Suggestions for Success in the Ambulatory Setting

The role of the student in the ambulatory setting is usually more hands-on than in the inpatient setting. You will often be the first person to acquire a history from the patient before they have been subjected to other interviews. The most important skills for success in the ambulatory internal medicine setting are efficiency, organization, the ability to think on your feet, and a solid knowledge base. A successful ambulatory experience will help you acquire skills you will use throughout your career.

Patients see physicians in general medicine or primary care clinics to get a "general check up" or for specific complaints. 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 one general internist in one-on-one sessions.

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 do you know when a patient is ready for you to see?
- ⇛ 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. (It is recommended that the third-year clerkship ambulatory experience should not be completely shadowing; students should independently interview, examine, and assess patients a substantial proportion of the time, prior to seeing the patient with the preceptor.)

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 flexible time 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 may vary with the day (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.

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 an HPI 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. As follow-up clinic visits are generally brief, one may not be able to cover all the patient's concerns in one visit. Your job is to set an agenda with the patient that covers their most significant concerns as well as yours.

What follows is a suggested structure for the outpatient interview:

1. Prepare: Find out what the patient's medical problems are by reviewing their chart or discussing their history with their physician.
2. Negotiate an agenda:
   a. Ask the patient what their concerns are.
   b. Prioritize concerns by the problems that are most concerning to you and to the patient.
   c. Tell the patient your agenda; most frequently this 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 sugars?"
   d. When the patient has more concerns than can be covered, let the patient know that you would like to hear more about those concerns during their next visit. "Let's talk some more about your chest pain and hypertension. I'd like to hear more about your knee pain. Since we have a brief visit scheduled today, can we cover that in more detail when I see you next?"
3. Gather the data:
   a. 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.
   b. Perform a targeted yet appropriately thorough physical exam.
4. Collect your thoughts:
   a. What are the major issues?
   b. What are the most likely differential diagnoses?
   c. Do you have time to quickly read up on your patient's complaint?
   d. What is your plan?

5. Present the case:
    a. Identify the patient: "Mr. Smith is a 50-year-old man with hypertension and diabetes who presents for a routine three month follow-up."
    b. Review the agenda: "In addition to reviewing his chronic medical problems, the patient also wanted to discuss left knee pain."
    c. Present the problem list:
        i. Knee pain: "The patient has had knee pain for 6 months. It is worsened by …"
        ii. Diabetes: home blood sugars average, lowest reading was, highest reading…last eye exam was…foot care, etc.
        iii. Hypertension.
        iv. Health maintenance
    d. Present the physical examination.
    e. 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…"
    f. Present your plan:
        i. 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.
        ii. For his diabetes, check hemoglobin A1c…etc.
        iii. For his hypertension…
        iv. For his health maintenance…
    g. Discuss follow-up appointments and referrals.
6. Follow through: check test results and communicate these with the patient as arranged with your preceptor.

Another "learner-centered approach" to the presentation would be to use 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.

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."

The fundamental principles of professionalism are as follows:
Principle of primacy of patient welfare.

Principle of patient autonomy.

Principle of social justice.

Its set of professional responsibilities are as follows:
Commitment to professional competence.

Commitment to honesty with patients.

Commitment to patient confidentiality.

Commitment to maintaining appropriate relations with patients.

Commitment to improving quality of care.

Commitment to improving access to care.

Commitment to a just distribution of finite resources.

Commitment to scientific knowledge.

Commitment to maintaining trust by managing conflicts of interest.

Commitment to professional responsibilities.

It is important to note that some of these principles are occasionally at odds with one another, and in these situations it is important to be able to recognize and effectively negotiate these conflicts when they arise. 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 and why they have the problems that they have. Treat every patient as you would hope your family member would be treated. As you invest in your patient, they will invest in you, and this will allow you to experience something that may not have before—a true therapeutic relationship.
- Follow your patients over time; call them after they have left the hospital to find out what happened to them.
- Be an advocate for your patient whenever necessary. Discover for yourself what Francis W. Peabody, MD, articulated: "The secret to caring for the patient is caring for the patient."
- Reflect actively on your actions and experiences, on a regular basis. After each interaction, especially those in which you find you are having strong emotions, spend some time considering and analyzing what you have experienced. Write it down. Discuss your thoughts with your peers and advisors.
- Be honest to yourself and others. It is honorable to say "I don't know."
- Be aware of the "hidden curriculum." This refers to that which is taught outside the classroom and which may not be the best examples. Think critically about everything that you are taught, no matter the source.

- ⇛ 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. Be a part of the solution. Consider ways that the system might be improved and pass them along.
- ⇛ Learn from your mistakes. You will make mistakes. We are human, and we can expect no less of ourselves. And, as a learner, you do not yet have all the knowledge and skills to practice independently. Strive to never make the same mistake twice. Share your experiences with your peers, so they avoid repeating mistakes. Learn as much as you can about ways to prevent making important errors (and there is a growing literature on how to do this), and be willing to adapt your practice to provide the highest quality and safest patient care.
- ⇛ If any problems occur during your clerkship, let your clerkship director know as early as possible.

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 on this clerkship.

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

You will only have one 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. Your patients, your team, your preceptors and attendings, your hospital and clinics, and you will ultimately determine the outcome of this experience. This clerkship will shape you, even if in small ways. You will carry your experiences from these weeks with you for the rest of your professional career. 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. We wish you the very best clerkship experience possible. Your clerkship director feels genuinely privileged to accompany and guide you.

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 ultimately 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, subspecializing, entering procedurally based fields, practicing hospital medicine, working with specialized populations, teaching medical students and residents, conducting quality improvement work, 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?

There are many reasons 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 trying to analyze 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, to experience continuity, and to 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 this obviously varies widely across physicians and areas of the practice.

What about lifestyle? How hard do internists work?

There is a tremendous range of lifestyles in internal medicine, which reflects the wide variety of practice types and styles within internal medicine. There are many fields that have essentially a 9:00 a.m. to 5:00 p.m. schedule. There are some fields within medicine in which one may expect to work longer hours and have more overnight call. For example, if one chooses to become an interventional cardiologist, one knows that patients may occasionally need an 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 physicians in the practice/coverage group, the specific needs of patients, etc. Many hospitalist groups work shifts. Additionally, there tends to be 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 enjoyment and satisfaction that the field produces, as this will likely produce longer 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: (1) internists earn compensation to support a very comfortable life; (2) some subspecialties earn more than others, particularly in the private sector; (3) 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. There may be additional tracks of residencies (women's health and hospital medicine) that you will find, but these are the most common. Generally, categorical residencies are heavily hospital-based. Residents spend most of their time on hospital medical wards, in intensive care units, in subspecialty services, in the outpatient setting, in the emergency department, etc. All internal medicine residents have a continuity clinic in which they follow their own patients (with supervision) over time. Continuity clinics are required to happen at least one session (approximately four hours) per week, regardless of the rotation. In primary care tracks, medical residents spend a higher percentage of their time in the outpatient setting, especially after internship. Regardless of the track chosen, 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 least months of electives. 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 time for elective rotations, during which residents can determine their schedules for some months during the year. 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.

How difficult is it to get into an internal medicine residency program?

In general, internal medicine is not currently very competitive as there more internal medicine residency positions than positions for any other specialty. However, 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 AOA 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—students who perform well can typically enter a program of their choice. Internal medicine residencies are typically offer a comprehensive teaching program and extensive supervision by skilled physicians. One does not need to attend the very top 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. The idea behind these combined programs was that students could build practices based on where these programs overlapped. An example of this would be how some medicine/pediatrics residents are interested in pursuing a career in adolescent medicine, while others plan to subspecialize and see patients of all ages in that subspecialty in the future. For instance, a medicine/pediatrics specialist could further subspecialize in cardiology and focus on congenital heart disease or endocrinology and follow type I diabetics throughout their lifetime. Many internal medicine/emergency medicine residents choose this route because they are interested in having a private clinic in addition to working shifts in an emergency department.

I'm still interested. What should I do?

Keep your mind open during this and every other clerkship. 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. Getting yourself positively recognized will probably help you, although this is not critical at this early point.

Learn more about internal medicine. The American College of Physicians (ACP) has prepared a number of resources for students who are considering entering internal medicine. See the ACP website at www.acponline.org.

Finally, identify an internal medicine advisor who can give you guidance about how to proceed as you plan your fourth year, applications, and interviews.

If you remain unsure at the end of your clerkship like very 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 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.

Inpatient: Refers to care of patients who are hospitalized

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/offices.

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, and some restrict their practice to the hospital (hospitalists). About 60 percent of internists subspecialize in one of the subspecialties of internal medicine (see below). Many of these people ultimately practice only their subspecialty, but many also practice general internal medicine as well.

Resident: Residents have completed their medical school training, have their doctoral (MD or DO) degree, but are not yet eligible for autonomous practice. All trainees 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 post-graduate year (PGY-2). A senior resident is typically PGY-3.

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 with **internist**, a physician who practices internal medicine.

Subintern or acting intern: A fourth year medical student in preparation for internship, working as independently as possible but with resident supervision to provide direct patient care.

Chief resident: Usually has completed his/her training in internal medicine and 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.

Fellows: Trainees 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.

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."

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

Subspecialists: Internists who practice a subspecialty. A number of subspecialties exist within inter-

nal medicine, including allergy and immunology, cardiology, endocrinology, infectious diseases, hematology, gastroenterology, geriatric medicine, nephrology, oncology, pulmonary and critical care medicine, and rheumatology. Many of these subspecialties have additional paths of specialization, for example, invasive cardiology or hepatology.

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

"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 reviewing the patient's brief history, the status of active problems, the medications that the patient is taking, and the vital signs/intake and 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 where the student will see all of his/her patients and gather information prior to the entire team visit. This is a means for the student to be even more prepared for work rounds. "Attending rounds" is a teaching session in which the team will discuss cases and learn from their patients with the team's attending.

Appendix 3: The People with Whom You Will Work, Interact, and Learn during Your Internal Medicine Clerkship

You will work with many people during your 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 in order to take most effective care of patients; therefore, it is important to be able to work well with all of them.

Nurses are responsible for safely and promptly executing the plan of care for patients and addressing the 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 this directly with the patient's nurse.

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

Unit secretaries are stationed at the front of the ward. They are responsible for answering phones, answering patient calls, and perhaps most importantly, taking of 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. They will likely know if blood has been drawn, if a patient has left the floor, and if a test has been ordered.

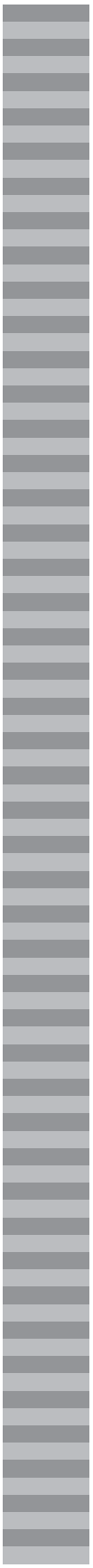
Case managers are typically nurses whose primary responsibility is to assist the provider team with achieving timely and appropriate discharge of patients. They are invaluable in securing outside services, assisting to arrange follow-up, and getting patients screened for placement in rehabilitation or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

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

- Physical therapists evaluate strength and balance to determine if patients are safe to return home and prescribe exercises.
- Occupational therapists evaluate patients' fine motor and cognitive skills to determine their abilities to care effectively for themselves.
- Speech therapists evaluate patients' abilities to swallow in event of neurologic injury or muscular weakness of the oropharynx.
- Phlebotomists draw blood.
- IV therapists place saline locks and sometimes longer lines which may be more durable, etc.

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

Finally, you will be working with patients. 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. Some may be angry or offensive. Some may be entitled and demanding. Some may be unable to communicate at all or severely disabled. It may be tempting at times 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 of pain."



CDIM thanks the Shadyside Hospital Foundation of Pittsburgh, PA, for its support of the reproduction and distribution of this primer.

Electronic versions of the primer in Adobe Acrobat (for reproduction) and Microsoft Word (for tailoring by clerkship directors) are available on the CDIM website.

CDIM

CLERKSHIP DIRECTORS IN INTERNAL MEDICINE
2501 M Street, NW
Suite 550
Washington, DC 20037-1325
Telephone: (202) 861-8600
Fax: (202) 861-9731
Email: CDIM@im.org
Website: www.im.org/cdim