

THE LONGITUDINAL PRECEPTOR PROGRAM

**Student Course Book
AY 2021-2022
Year 2**



University of Massachusetts Medical School

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WELCOME BACK TO LPP!

As you know the LPP is designed to give you an opportunity to experience the practice of medicine firsthand as well as interview and examine real patients. Hopefully you found this to be an exciting and enriching part of your education last year. The second year allows you the opportunity to further develop your history and exam skills and begin to incorporate problem solving into your patient encounters.

It remains important that you maintain good communication with your preceptors. You should have 2 preceptors (unless you are part of the Urban or Rural Health Pathway). It may be helpful to have a first meeting (15-20 minutes) with each of your preceptors to arrange your schedule for the semester. You are required to complete 6 sessions (3 per preceptor) this Fall. Even if you are returning to the same preceptors' office, schedule some time to review goals and objectives for year 2. Remind them of what you are doing in your other courses. No matter how busy your preceptors may be, they will always appreciate you keeping them informed especially if you will be late or need to miss a session. Email or cell phone are typically the preferred methods of communication with your preceptor.

Important things to remember:

- For each of your 6 clinical sessions this Fall, **please make sure you fill out a LPP2 checklist via OASIS following each LPP visit in order to receive credit.**
- In November, we will be sending your preceptor a link to the preceptor evaluation. The preceptor will fill out an evaluation of you on OASIS, the same as last year. These are due December. You should discuss these evaluations and your development over your time at your assigned LPP site(s) with your preceptor(s).

Again, the learning objectives of the LPP are met by placing students in a variety of clinical settings and specialties. Therefore, *you can expect differences* between your experience and those of your classmates. As long as you are meeting your basic educational goals then you are on the right track. If this is not happening, or you are having other difficulties with your LPP assignment, let us know as soon as possible.

COVID: The medical school has asked students not to see patients with COVID or patients under investigation (PUI) (possible COVID+). If there are rare times where your preceptor feels there may be a higher risk (for example, in specific cases in the ER where the diagnosis is not known), students should be provided a N95 when needed and at the preceptor's discretion as well as appropriate PPE from your clinical setting. Students will also have to complete COVID online training and FIT testing prior to starting LPP. This is done through the medical school. As with life, things can change rather quickly. If there is a surge and the learning environment is deemed not safe to have beginning students, we will continue to work with the medical school leadership on alternatives.

We have created a website for the Longitudinal Preceptor Program. The site offers information for current and future students & preceptors. If you know anyone that is interested in becoming a preceptor please share the link with him/her. Please visit the site using the link below and let us know your thoughts. <http://www.umassmed.edu/oume/curriculum/longitudinal-preceptor-program/>

Sincerely,

Peggy Wu, M.D.
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AY 2021-2022 EVALUATION/GRADING

The Longitudinal Preceptor Program (LPP) accounts for 20% of the Doctoring and Clinical Skills 2 (DCS2) course grade. Outstanding performances are taken into consideration in the overall DCS grade. **LPP coursework must be completed by January 31, 2021. Failure to have assignments completed will result in a No Credit grade for the course.** The following components will be used to determine the LPP grade and are **REQUIRED TO PASS**:

Requirements *DUE January 31, 2022*

1. Attend 6 Preceptor Sessions; complete 6 Checklists (OASIS) - *one completed following each session*
2. Preceptor Evaluation (due by preceptor December)
3. Complete a Reflective Write-up (*due 1/31/22 via email submission to the LPP@umassmed.edu mailbox, but feel free to submit earlier. Please list your name and class year in the subject line. This reflection will be shared with your LC mentor as well.*)

You must receive a passing LPP grade in order to receive credit for the DCS course. Failure to have assignments completed will result in a **No Credit** grade. Requests for extensions must be made via email to LPP@umassmed.edu no later than January 10, 2022.

LPP 2 OBJECTIVES GUIDELINE

(see page 7 for further detail on each objective)

OBJECTIVE
Demonstrate the ability to:
1. Perform a complete history and physical exam over course of the semester
2. Complete History & Screening Exam
3. Gather a focused History (HPI) & perform an indicated Physical Exam
4. Develop and Discuss Problem Lists (listing findings, group findings, problem list), Assessment & Plans for one patient at each session. Review with your preceptor.
5. Perform an oral presentation to your preceptor for at least one patient you saw during your session.
6. Conduct a counseling encounter with a patient in your preceptor's office if appropriate.
7. Continuity Patient (if your practice setting is amenable).
8. Demonstrate & Discuss Prescription writing with your preceptor. If possible, observe him/her submitting an EHR (electronic health record) prescription one time for LPP year 2.
9. Write a SOAP note and have your preceptor review it one time for LPP year 2.
10. Describe the role of another member of the patient care team through working with them during one of your sessions if appropriate.
11. Utilize the patient's Electronic Health Record (EHR).
12. Complete a reflective write up, focused on what you have learned second year LPP due Jan 31, 2022.

DETAILS OF LPP YEAR 2 OBJECTIVES

1. Complete History and Screening Physical Exam: This includes the complete history and a routine physical exam. A routine exam is a head-to-toe exam aimed at screening for subtle medical problems. Many of these exams are normal or stable as abnormal findings are usually found after symptoms referable to that system are noted. Or exams may note established findings from known chronic diseases in patients. However, some illnesses may only be picked up during a screening exam. The complete history includes the following components:

- Chief Complaint (CC)
- History of Present Illness (HPI) - utilizing 7 cardinal features
- Past Medical History (PMH), medications and allergies
- Family History (FH)
- Social History (SH) which includes a sexual History
- Review of Systems (ROS)

Practice as many parts of this exam or all of it as many times as you can. **Physical examination is a vital and fundamental part of being a physician. The more you do it, the more skilled you become.** Your preceptor will help you define what constitutes a routine medical exam in the office, which will likely be less detailed than the full exam you have learned. You have learned many components that you will not *routinely* use. However it's important that you are familiar with each component so you can perform each when indicated.

2. Focused History and Physical Exam: This focuses on a single (or sometimes multiple) complaint(s) that the patient has regarding his or her health, and is shorter in scope, but sometimes more complex. You are required to carefully consider the problem and obtain the appropriate history and physical for that particular problem. Once clarifying the chief complaint you will ask the HPI (7 cardinal features) particularly focusing on the ROS for the systems that may be involved in the chief complaint, and pertinent PMH, FH, SH, and accompanying pathophysiologic features. **You should also inquire about medications and allergies**, as side effects to medications can give rise to multiple symptoms.

For instance, in a patient with a chief complaint of heartburn, it would be helpful to know if the patient had a PMH of an ulcer or is taking ibuprofen daily for arthritis. Other important components may include whether the patient drinks alcohol (SH) or has a FH of something like esophageal cancer or Barrett's esophagus. A focused history, therefore, requires that you begin thinking about the possible etiologies in order to know what system(s) to ask about and then examine. For the patient with heartburn, it will not be useful to ask about urinary complaints as it is highly unlikely that the genitourinary system is involved.

The physical exam component, therefore, should be relevant to the system(s) that are likely involved. This will not be a head-to-toe exam. The patient with heartburn may only require an abdominal exam, but a rectal exam may also be required depending on the history you obtain.

3. Develop and Discuss Problem List (list findings or group findings), Assessment and Plans: Complete these details on at least one patient per session, as this is your opportunity to use critical thinking skills, i.e. putting it all together in terms of what the patient's problems are, how to evaluate them and how to treat them. Ask your preceptor to review with you. Ask how your preceptor uses the problem list. To help you problem solve a case, you may want to first list your findings and then group common elements so you can better understand what symptoms go along with each other, what is going on and how best to develop an assessment and plan. Figuring out whether symptoms should be grouped often is decided by considering if the timing of the symptoms is similar. For example, if a patient has a cough then a fever a day later, likely these symptoms should be grouped, while if a patient has a fever in the winter when you are seeing him and gets a springtime cough with his post nasal drip from allergies, these should be listed separately.

4. Oral Presentation: The format for an oral presentation is in the Appendix. This is one of the ways that you will be communicating with others regarding patients. Oral presentation is also one of the most obvious ways you will be assessed. A good presentation reflects a competent student, whereas a disorganized presentation one will reflect badly on your abilities. You may have already started to do this in LPP 1 and will have a chance to do it more in the hospital sessions, but now is the time to begin honing your skills for third year. Try to present each patient that you see to your preceptor, if this is not possible then try for at least one patient per session. Get feedback from your preceptor if possible so you can see how you're doing.

5. Counseling: This will give you the opportunity to utilize the counseling skills you learned in DCS. Please refer to the Health Risk Behavior Assessment in the appendix. Attempt to counsel as many patients on a specific behavior that needs modification as possible. Smoking is very common, but any behavior may be addressed (i.e. on diet, weight loss or exercise). We encourage you to write down what did/didn't work during the counseling so you can refer back to this at a later date. Counseling will become an integral part of what you do regardless of your eventual specialty choice.

6. Continuity Visit: You will want to discuss this patient encounter with your preceptor, so that you may arrange your schedule around the follow-up office visit at a time when you are scheduled to return to the practice. Observe the differences in the encounter when you see the same patient a second or third time. You may also want to see if that patient has other medical appointments within the healthcare system and ask to

attend those as well. This could be visits with other specialists or other scheduled tests such as radiology procedures, cardiac testing, or pre-op testing.

7. Prescription Writing: Try to observe your preceptor when he or she submits an electronic prescription in the EHR.

8. Write a SOAP note: Completing a SOAP note will help to familiarize you with a form of written communication that you will utilize thru out your career. Your preceptor should review this note and provide comments. See the appendix for more information on this format.

9. Interprofessional Medical Education: Working with members of the patients health care team is a valuable experience. This will help you to understand the team members in your preceptor's office and the role they play in the patient's care. Examples could include spending some time with the triage nurse on the phones, working with the health assistants rooming the patients, spending time in the lab or radiology, or working with the front desk staff at registration.

10. Electronic Health Record (EHR): Most medical offices and hospitals now utilize some record on EHR. Ask your preceptor to guide you through ways he/she uses the EHR in the care of their patients. This will be very helpful as you move into the in-patient setting during your hospital sessions.

11. Reflective Write-Up: We ask that you submit a reflective write up to LPP@umassmed.edu by January 31, 2022. Please name the file with your last name and 'Reflective Write-up' (i.e. Smith_Reflective Write up) and submit via email with your last name and class year in the subject line.

This is an opportunity for you to take some personal time to sit back and reflect on becoming a doctor and doctoring. Please complete a written narrative, reflecting on a specific experience or on your total experience to date with patients. Include any or all of the following reflections: How has working with patients affected you? How, if at all, has your perception of what a doctor is changed? How, if at all, has the way in which you would practice as a physician changed? Have you observed examples of patient advocacy where the doctor has gone out of their way to help a patient? Feel free to comment on any other impact this experience has had for you, either good or bad.

There is no required length to the write-up but we encourage you to be thoughtful and complete. You may want to reflect on your experience over the winter break – so this component is not due until the end of January, but you are encouraged to complete it sooner. This writing assignment will not be shared with your preceptor (although you are certainly welcome to do so), but your LC mentors will have the opportunity to review and provide comments.

12. Preceptor Evaluation: In November your preceptor will receive a student evaluation. These evaluations should be filled out no later than early December. If possible you should schedule a time to review and discuss these with your preceptor.

We wish you the best as you continue your work in becoming doctors!

Appendix

GUIDELINES FOR PROFESSIONAL BEHAVIOR

The Faculty and Student Body of the University of Massachusetts Medical School regard the following as guidelines for professional behavior. These areas are derived from the school's Technical Standards (see Student Handbook). Students are expected to show professional behavior with or in front of patients, members of the health care team, and others in the professional environment (school, hospital, clinic, office) including members of the faculty and administration, other students, standardized patients, and staff. Faculty members and administrators are expected to abide by similar standards.

PROFESSIONAL ATTRIBUTES

Displaying honesty and integrity

- Never misrepresents or falsifies information and/or actions (i.e. cheating)
- Does not engage in other unethical behavior

Showing respect for patient's dignity and rights

- Makes appropriate attempts to establish rapport with patients or families.
- Shows sensitivity to the patient's or families' feelings, needs, or wishes.
- Demonstrates appropriate empathy.
- Shows respect for patient autonomy.
- Maintains confidentiality of patient information.

Maintaining a professional demeanor

- Maintains professional demeanor even when stressed; not verbally hostile, abusive, dismissive or inappropriately angry.
- Never expresses anger physically.
- Accepts professionally accepted boundaries for patient relationships.
- Never uses his or her professional position to engage in romantic or sexual relationships with patients or members of their families; never misuses professional position for personal gain.
- Conforms to policies governing behavior such as sexual harassment, consensual amorous relationships, hazing, use of alcohol, and any other existing policy of the medical school.
- Is not arrogant or insolent.
- Appearance, dress, professional behavior follow generally accepted professional norms.

Recognizing limits & when to seek help

- Appears aware of own inadequacies; correctly estimates own abilities or knowledge with supervision.
- Recognizes own limits, and when to seek help.

RELATIONSHIP TO OTHERS

Responding to supervision

- Accepts and incorporates feedback in a non-resistant and non-defensive manner.
- Accepts responsibility for failure or errors.

Demonstrating dependability and appropriate initiative

- Completes tasks in a timely fashion (papers, reports, examinations, appointments, patient notes, patient care tasks).
- Does not need reminders about academic responsibilities, responsibilities to patients or to other health care professionals in order to complete them.
- Appropriately available for professional responsibilities (i.e. required activities, available on clinical service, responds to pager).
- Takes on appropriate responsibilities willingly (not resistant or defensive).
- Takes on appropriate patient care activities (does not "turf" patients or responsibilities).

Interacting with other members of the team

- Communicates with other members of the health care team in a timely manner.
- Shows sensitivity to the needs, feelings, and wishes of health care team members.
- Relates and cooperates well with members of the health care team.

Sample LPP 2 Interview Checklist

Session Date: Month Day Year

Accomplishments for this LPP session

Please indicate the number of times each of the following occurred.

I observed my				I performed...		
0 times	1-2 times	>3 times		0 times	1-2 times	>3 times
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	7 Cardinal features of the HPI	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Past Medical History	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Social History (including habits)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Sexual History	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Family History/Genetic History	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Meds/Allergies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Counsel a patient (e.g., smoking, diet, exercise)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Some portion of physical exam	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Develop a Problem List	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Develop an Assessment/Differential Diagnosis	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Develop a Plan	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Oral Presentation	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	0 times	1-2 times	≥3 times
Number of times I was observed by my preceptor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Number of times I was given feedback by my preceptor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	No	Yes	Last Session
I developed a learning plan with my preceptor for the next session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	0 patients	1-2 patients	≥3 patients
Number of patients seen today that I have seen before	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

SOAP NOTES

SOAP notes can be used for problem focused outpatient encounters and for daily progress notes on inpatients. These notes can vary dramatically, depending on the situation.

S- Subjective, this is what the patient tells you, the history. When it is a symptom, this portion of the note is the HPI with all the categories of information you need to collect as taught to you in DCS (7 cardinal features, pertinent review of systems, PMH/PSH, FH, SH, and condition specific data). If you are discussing smoking cessation or any other behavior change, the framework you are using for the interview provides you with a structure for what information to collect and then record.

O- Objective, this is the physical examination that you performed, lab data and other medical test data for instance chest x-ray results. In most outpatient encounters or in inpatient follow up visits, a complete physical is not performed. You usually perform and record a **Focused Physical Exam** that consists of:

1. General Appearance and Vital Signs
2. Examine systems that could be involved in the disease processes you are considering as potential causes for your patient's symptoms (this is your differential diagnosis) or the systems involved by the problem if you have already established a diagnosis. This allows you to use your physical exam as a problem solving exercise, examining focused areas to allow you to distinguish amongst the possibilities (e.g. heart, lungs, abdomen, and muscles of the chest in a person with chest pain) as well as use the exam to determine if a patient is improving.

Assessment and Plan

Begin with the first problem on your problem list and proceed sequentially. The **problem list** is a series of issues that you need to address over time during a hospital admission or during a continuous relationship with a patient. So for each problem listed, you will end up with an assessment and plan for that problem. Your assessment of the problem will differ slightly if the problem is a symptom or if your problem is a diagnosis.

If your problem is a symptom, your assessment should discuss what the possible diagnosis's are that could cause the symptom (referred to as a differential diagnosis). Then you discuss your most likely diagnosis, and the reason(s) why you think this is the most likely diagnosis. Reasons usually include supporting evidence from the history (the shortness of breath was accompanied by cough, fever, yellow sputum), the physical exam (the patient had rales present in the lower left lobe), x-rays and lab data. You should also briefly discuss the reasons that allowed you to conclude that the other diagnoses in the differential were less likely (i.e. "this patient had no paroxysmal nocturnal dyspnea-waking up in the middle of the night short of breath, leg edema, or orthopnea, making the diagnosis of Congestive Heart Failure unlikely). Finally, **your plan** discusses your decisions about testing and treatment that will allow you to distinguish the various diagnostic possibilities from each other.

If your problem is a diagnosis, your assessment should include how you arrived at the diagnosis and the reason(s) why you think this is the diagnosis. Reasons should be similar to the supporting evidence as above. You should also discuss the other diagnoses that you considered, and how you excluded them. **The plan** is then similar to the above task, but you will concentrate on testing if needed to confirm the diagnosis and treatment of that condition if the diagnosis is certain.

Here is an example:

S – This patient presents today with a complaint of mid sternal chest pain which started 2 weeks ago after eating pizza and has occurred almost daily since, lasts approx. 1-2 hrs., usually occurs after meals particularly

caffeine or fatty foods, is burning in quality and relieved by TUMs. The patient denies radiation of pain, shortness of breath, association with exertion, palpitations, nausea, dizziness or sweating. There are no cardiac risk factors (family history, diabetes, hypertension, smoking or cholesterol or male sex). The patient has never had this before.

O - T- 98 BP-110/72 HR- 64 RR- 16

General- Alert, no apparent distress

Cor- regular rate and rhythm, no murmur, rub or gallop

Chest- tender to palpation at costochondral junctions

Lungs- clear to auscultation

Abdomen- normoactive bowel sounds, soft, nontender, no hepatosplenomegaly, no masses

A - Chest pain - atypical in nature, heartburn-like, occurring only supine, easily relieved with antacids.

Differential diagnosis includes: GI - probably GERD, most likely because of previous mentioned characteristics, musculoskeletal - less likely than GI but given chest wall tender to palpation on exam suggests component of costochondritis (inflammation of joint spaces between sternum and ribs) as well, cardiac - but less likely because no significant risk factors and atypical pain, pulmonary - very unlikely, no symptoms referable to this system

P -start H2 blocker

-call in 2 weeks to report progress

-will hold NSAIDS for now for costochondritis until reflux improved

-follow-up as indicated, may need UGI if no significant improvement with H2 blocker

GUIDELINES FOR ORAL PRESENTATIONS (for case-type presentation)

Chief Complaint/Opening Line/Orienting Statement , includes identifying information and the chief complaint (see opening line notes below, which chiefly pertain to DCS2)

Your opening line will vary depending on the audience, the situation, and the purpose of the presentation. It should orient the listener to key elements of the chief complaint and how it relates to the broader case.

Consider the following situations.

1. In a new patient who presents with symptoms of cough, you should make sure that the chief complaint is in the first sentence of your presentation. “This is a 32 year old man who presents to the hospital with shortness of breath and cough.”
2. You do not need to present all the details of the Past Medical History in the first line of the presentation, but you should consider whether some aspects of the medical history would influence the listener’s thinking and is **so** important that you should include it in the first sentence. For example, one would think differently if the opening line of the presentation above were: “This is a 32 year old man with a 12 year history of HIV infection and progression to AIDS who now presents with shortness of breath and cough.”

HPI-should reflect the chief complaint, its features (7 cardinal features)

You should at least detail:

- The seven cardinal features of the presenting symptom.
- Pertinent Review of Systems (ROS questions from the system(s) in which chief complaint may fall)
- PMH that could be related to diseases that present with the chief complaint
- FH that could be related to the chief complaint
- SH that could be related to the chief complaint
- Condition specific data- detailed (disease based) information about specific conditions that don’t fit into above categories (nausea in patient with headache is something that you likely need to think of migraine or elevated intracranial pressure which then makes you ask and then report on nausea.)

NOTE: Risk factors for disorders that could present with the chief complaint is a broad term that includes items from many of the above categories (something from the PMH, FH, SH, or medications that makes a particular diagnosis more likely, i.e. heavy drinking from SH or aspirin from medications are risk factors for a bleeding ulcer. FH of MI or PMH of HTN are risk factors for MI).

NOTE: Collectively, the information beyond the 7 cardinal features represents **pertinent positives** (pertinent positive is a symptom, risk factor or risk behavior associated with pathological conditions presenting with such a chief complaint that is present in the patient) and **pertinent negatives** (pertinent negative is a symptom, risk factor, or risk behavior associated with pathological conditions presenting with such a chief complaint that is absent in the patient). The pertinent positives and negatives depend on your knowledge of pathophysiology.

Medications*-list the medication and doses that the patient is taking.

Allergies*-list agent and type of reaction.

By the end of the HPI presentation, the listener should have some idea of the diagnostic possibilities that you are considering.

*Some advocate for presenting Meds/allergies in all patients to encourage you to think about whether meds or allergies could be related to HPI

Summary statement

- Must start with pt demographics (Gender, Age)
- Most pertinent PMH, FH, SH, i.e. if it is immediately related to the chief complaint
- End summary sentence with as much of a “commitment” to your proposed diagnosis as you are able to give at your level of training. For instance, in the case above, you may say “32 year old male with a 12 year history of AIDS who now presents with fever and cough (will add physical exam and labs as you perform more complete exams), suspicious for PCP pneumonia”. You may only be able to narrow down your most likely diagnosis after the history and physical (you will likely be doing more, i.e. labs, XRAYs, to further clarify). For instance, “18 month old full term male with 2 days of cough and wheeze, and now 1 day of increased work of breathing, consistent with either asthma or bronchiolitis”
- Do not have your summary statement be a rehashing of the HPI!

Adaptations for the Complete Presentation

If oral presentation is a complete presentation of a full History and Physical (like you will perform in DCS2 Hospital sessions and in the clinical years), you will present full details of PMH, Meds/All, FH, SH, ROS in more complete fashion, but with less detail than information from these categories that are related to the HPI Review of systems-for the presentation; you should only give those positive symptoms that will need to be addressed during the admission or at the end of the outpatient visit.

Physical Examination-patient’s general appearance (uncomfortable appearing woman in respiratory distress), a complete set of vitals, all parts of the exam that could have abnormalities produced by diseases that are on your differential.

Outline for the *Focused* History and Physical Examination

The History

- I. Chief Complaint (cc)
- II. History of Present Illness
 - A. 7 Cardinal Features of the presenting symptom (cc)
 - B. Review of Systems from system(s) in which chief complaint falls (e.g. Cardiac, Pulmonary, Musculoskeletal, and GI ROS for someone with chest pain)
 - C. Pathophysiologic Features – report pertinent positive features (symptoms, risk factors or risk behaviors) associated with pathological conditions related to the chief complaint that are present in the patient; and pertinent negative features (symptoms, risk factors, or risk behaviors) associated with pathological conditions related to the chief complaint that are absent in the patient. The following should be included:
 1. Symptoms associated with diseases that could present with Chief Complaint (e.g. *fever* in someone with a cough and sputum production makes you think about pneumonia)
 2. FH of related diseases (e.g. FH of colon cancer in a patient with blood in stool)
 3. Risk Factors for diseases (e.g. hypertension in those with chest pain)
 4. PMH that could relate (e.g. Congestive Heart Failure in a patient with shortness of breath)
 5. Social History related to chief complaint (stress in patient with chest pain, smoking in patient with shortness of breath, alcohol in patient presenting with abdominal pain)
- III. Other Core History - while the above emphasizes problem solving history, it is important to report medications that the patient is taking and any allergies. Some would also feel that any significant PMH (e.g. diabetes) should be reported as well.

The Physical Examination

- I. General Appearance and Vital Signs
- II. Examine Systems that could be involved in the disease processes you are considering as causes of the chief complaint (e.g. heart, lung, abdomen, and muscles of the chest in a person with chest pain)

Outline of the Complete Medical History and Write-up

I. Chief Complaint (CC)

II. History of Present Illness (HPI)

- A. 7 Cardinal Features of the presenting symptom (CC)
 - 1. Quality
 - 2. Location
 - 3. Chronology
 - 4. Setting and Onset
 - 5. Severity
 - 6. Modifying Factors
 - 7. Associated Symptoms

Include Pertinent Positives - a symptom, risk factor or risk behavior associated with pathological conditions presenting with such a chief complaint ***which is present*** in the patient.

Include Pertinent Negatives - a symptom, risk factor or risk behavior associated with pathological conditions presenting with such a chief complaint ***which is absent*** in the patient.

III. Past Medical and Past Surgical History (PMSH)

- A. Medical Illnesses/ Hospitalizations
- B. Surgical History
- C. Psychiatric History
- D. Childhood Illnesses
- D1. (Add Birth and Developmental History to a Pediatric History)
- E. Injuries
- F. Medications
- G. Allergies
- H. Transfusions
- I. Pregnancies

IV. Social History/Habits and Risk Behavior

- A. Birthplace
- B. Education
- C. Work and Work History including exposure to hazardous materials
- D. Marital/Relationship Status
- E. Quality/Quantity of Social Relationships
- F. Diet
- G. Exercise
- H. Tobacco Use
- I. Alcohol Use
- J. Drug Use
- K. Sexual Behaviors History
- L. Domestic Violence
- M. Injury Prevention (seat belts, bicycle helmets, etc.)

V. **Family History**

- A. Significant **Illnesses** in 2-3 generations of family – Document -
Ages and health status of **siblings**
Ages and health status of **parents**
Ages and health status of **grandparents**
Ages and health status of **children**
- B. Ask about Common **Diseases** with known genetic links
 - 1) familial incidence of arthritis, cancer, diabetes, hypertension, myocardial infarction, stroke, mental illness, alcoholism
 - 2) any other illness that **runs in the family**

VI. **Health Care Maintenance (Prevention and Screening)**

- A. Cancer Screening
- B. Immunizations
- C. High Risk Population Screening (e.g. HIV testing for those with high risk behavior)
- D. Other (cholesterol, vision, hearing, dental, sun exposure)
- E. Health Care Proxy

VII. **Review of Systems (ROS)**

- | | |
|---------------------------|---------------------|
| A. Constitutional | B. Skin |
| C. Head | D. Eyes |
| E. Ears | F. Nose |
| G. Mouth | H. Throat |
| I. Breasts | J. Respiratory |
| K. Cardiovascular | L. Gastrointestinal |
| M. Urinary | N. Genital |
| O. Menstrual-Reproductive | P. Endocrine |
| Q. Musculoskeletal | R. Hematological |
| S. Nervous System | T. Psychiatric |

COMPONENTS OF THE MEDICAL HISTORY DESCRIBED

I. Chief Complaint (CC): The patient's stated reason for the medical encounter

II. History Present Illness (HPI): Characterize the chief complaint according to the principles of interviewing that you learned in the Physician Patient and Society course. This includes the 7 cardinal features of the symptom (quality, location, chronology, associated symptoms, modifying factors, setting and onset, and severity) as well as asking all questions in the past medical history (PMH), family history (FH), social history (SH) and review of systems (ROS) that directly relate to the chief complaint. Therefore, if a patient is experiencing shortness of breath, you should characterize the complaint and then include any pertinent PMH, FH, SH, and cardiorespiratory review of systems in your HPI since most causes of SOB can be traced to these two systems. Therefore, at the end of the HPI, it is worthwhile to ask yourself: *“have I characterized the chief complaint and asked the relevant questions from the appropriate past medical history, family history, social history and review of systems”?*

The HPI is the most demanding part of the history. It details completely and concisely all of the features of the illness or symptom complex that brought the patient to the hospital or the physician's office. It should be detailed in chronological order and in literate fashion so that details and time sequence are understandable to the reader. This is a task of potentially extraordinary complexity. It requires that you get the full details as outlined above, as well as the care that the patient has sought for the symptoms, diagnostic tests performed, physician's and patient's impressions of the symptoms and the plan that has been outlined thus far.

While not expected for this course work, keep in mind during the time that you are doing clinical rotations, you will also be asked to review previous medical records to supplement the information that the patient has given you and confirm the details of the tests that the patient has had leading up to the hospitalization. While this list of questions and issues that need to be addressed seem to be daunting, they can all be seen as a part of the time course of the illness for which the patient presents.

Events should be related temporally but attention should be paid to the avoidance of skipping back and forth between the details of symptoms in different organ systems. If a patient has an illness that has multiple symptoms from different organ systems, it is often helpful to detail the symptoms separately followed by their time course, features, pertinent positives and negatives. In addition, if the patient has had multiple episodes of a symptom complex or multiple exacerbation's of one disease, it is often helpful to get the full details of a typical episode, record the frequency of episodes and record how the current episode may differ from a typical episode if it does.

There clearly is judgment involved in deciding whether an item belongs in the HPI. A rule of thumb is to include all the symptoms from the Review of Systems in which the patient's chief complaint falls as well as any diseases that relate to that system. As you take the history and form ideas or hypotheses about what disease entities that the symptoms might represent, be careful to then include questions from the systems that these diseases involve. This requires that you begin to integrate the knowledge that you have gained in the Pathophysiology course with the symptoms that the patient reports to you. You should not include the details of illnesses that are not related to the HPI here as this information belongs in the PMH.

III. Past Medical History (PMH): In this section, you should detail the patient's previous medical and surgical problems. To be included in this section, it should be a clear diagnosis, not only a symptom or symptom complex. In addition, if a patient tells you that they have had a certain disease; you should typically ask about the presenting symptoms, diagnostic tests used to arrive at the diagnosis, and subsequent course of the disease. This information allows you to include only clearly established diagnoses. The more varied that the disease presentation can be, the more critical it is that you record the details completely. You can use a short hand method of recording the PMH/PSH

by listing the diagnosis followed by the date that the diagnosis was made and the details that you have collected. An example is given below.

- a. Essential Hypertension - 1986, diagnosed on routine PE, without complications, treated with ACE Inhibitor, Vasotec
- b. Systemic Lupus Erythematosus - 1989, presenting with diffuse arthralgia and arthritis as well as skin rash, diagnosed clinically and treated with Naprosyn for his/her joint pain

Also included in this section are numerous subheadings that pertain to previous problems or health history. These include:

- a. Past Illness (examples above)
- b. Past Surgeries
- c. Childhood Illnesses
- d. Injuries
- e. Immunizations
- f. Allergies (include a description of the reaction)
- g. Transfusions
- h. Pregnancies
- i. Medications - include doses and frequency

IV. Family History (FH): Diseases that can be inherited are a critical part of the history. You should record the health status and health problems, concentrating on those that are known to have genetic links, of the patient's grandparents, parents, siblings and children. If any of these persons are deceased, record the cause of death and the age at which that occurred. While history of the grandparents may be hard to obtain, it is important to attempt to get information for at least two generations of the family that have lived long enough to get heritable diseases. This can be recorded in long hand or in family tree format being sure to identify which one is the patient if a family tree is used. In addition to whatever format is being utilized, you should also ask about the major disease categories that are known to have genetic links such as Diabetes Mellitus, Hypertension, Myocardial Infarction, Stroke, Arthritis, Asthma and Cancer.

V. Social History (SH): This section should attempt to detail prominent features in the life of the person that you are examining. It should include a comment on where the person was born, when and how they came to be in their current community, their marital status, current work, some comment on the quality and quantity of their social relationships and their means of emotional support. By convention, this is the section of the write-up where the smoking history, alcohol history, sexual history, and drug use history are recorded.

VI. Review of Systems (ROS): This is a systematic, comprehensive review of multiple symptoms that the patient may have experienced. The areas that you have to question can be conveniently grouped according to the pathophysiological system in which they fall. A list of systems follows this section. There are several critical items that need to be mentioned with regard to the recording of the ROS in the write-up. If a patient tells you that they have experienced a certain symptom, pursue that positive answer to determine whether it is a current problem, an acute problem that will need attention during this visit, or a fleeting or past problem that does not require attention at all. Do not simply record that symptom as "positive." Conversely, it does not suffice to describe a whole system as negative while not recording the items that you asked the patient. This is the case because recording the system as negative does not adequately characterize what items you asked the

patient about. This is generally referred to as “pertinent positive” and “pertinent negative” review of system as applied to the chief complaint.

A NOTE ABOUT TIMING-

ROS questions are asked in many situations. It is important to be clear why you are asking them and what time period you want the patient to consider in answering the question.

If the patient is an outpatient who you will follow over time, you are really asking whether a patient has had significant symptoms recently (and in some circumstances like hemoptysis or sudden asymmetric weakness or loss of consciousness, ever), and then pursuing enough detail to determine whether you might be able to make a diagnosis or need to do some tests, or be aware of these symptoms for a later visit.

If the patient is an inpatient who you will follow during the hospitalization, your question really has to do with whether the patient has experienced symptoms in ROS recently, and significantly enough that you need to focus on it (either testing or treatment) during this hospitalization. You are not asking whether a patient has ever had a rash, or ever had epistaxis (bloody nose) or heartburn.

What follows is a list of questions from various organ systems that should be addressed in the ROS.

1. **CONSTITUTIONAL SYMPTOMS:** Fever, night sweats, chills, fatigue, anorexia, insomnia, weight change, weakness, irritability.
2. **SKIN:** Change in moisture, temperature, color or texture, lesions, rashes, itching, bruising, bleeding disorders, changes in hair or nails.
3. **HEAD:** Change in head size, headache, trauma.
4. **EYES:** Vision changes, glasses, blurring, eye pain, diplopia (double vision), scotomata (blind spots), flashes of lights, injury, irritation, discharge, photophobia, excessive tearing.
5. **EARS:** Hearing loss, pain, infections, discharge, tinnitus, vertigo.
6. **NOSE:** Dryness, bleeding, pain, discharge, coryza, epistaxis, obstruction, sinus pain, change in smell.
7. **MOUTH:** Condition of teeth, pain in mouth or tongue, bleeding gums, lesions in mouth, tongue or lips.
8. **THROAT:** Soreness, hoarseness, dysphagia.
9. **BREASTS:** (both sexes) Pain, swelling, discharge, masses.
10. **RESPIRATORY:** Cough (acute or chronic), sputum production, hemoptysis, dyspnea, wheezing, chest pain, pleurisy, orthopnea.
11. **CARDIOVASCULAR SYSTEM:** Chest pain, exertional dyspnea (shortness of breath), paroxysmal nocturnal dyspnea, orthopnea, palpitations, syncope, peripheral edema, cyanosis, murmur, intermittent claudication, Raynaud’s phenomenon, varicose veins, phlebitis.
12. **GASTRO-INTESTINAL TRACT:** Dysphagia, odynophagia, appetite, heart burn (acid indigestion), eructation (belching), regurgitation, bloating, abdominal pain or discomfort, fullness, distention, pain, nausea,

vomiting, hematemesis, jaundice, bowel habit change, rectal pain, hemorrhoids, hernia, hematochezia, melena, diarrhea, constipation.

13. **URINARY SYSTEMS:** Dysuria, frequency, urgency, polyuria, nocturia, incontinence, flank pain, hematuria, retention, dribbling, hesitancy, poor stream, back or costovertebral angle (CVA) tenderness.

14. **GENITAL SYSTEM:**

- a. Gynecological: discharge, itching, genital lesions
- b. Male Genitalia: pain, lumps, urethral discharge, testicular pain or swelling
- c. Sexual Problems: dissatisfaction, dyspareunia, potency, recent change in pattern.

15. **MENSTRUAL-REPRODUCTIVE HISTORY:** Dysmenorrhea, intermenstrual bleeding, changes in cycle, amenorrhea, menorrhagia, metrorrhagia. Peri-menopausal symptoms like hot flashes, sweating, post-menopausal bleeding. Emotional reaction to menarche and menopause.

16. **ENDOCRINE SYSTEM:** General (weight change, easy fatigue, behavioral changes), thyroid disease (goiter, heat or cold intolerance, sweating, exophthalmos, tremor, skin and hair changes), diabetes (polyuria, polydipsia, vaginal discharge and itching, skin infections), pituitary disease (change of facial features, hands, feet). Secondary sex characteristics, habitus, hair distribution. Impotence, libido, sterility.

17. **MUSCULO-SKELETAL SYSTEM:** Bone pain, tenderness, swelling, stiffness, limitation of movement of neck, trunk, extremities. Weakness. Trauma, fracture. Swelling backache and leg cramps.

18. **HEMATOLOGICAL:** Lymph node enlargement, pain, bleeding, bruising.

19. **NERVOUS SYSTEM:** Syncope (faint), dizziness, convulsions, vertigo, difficulty with speech or swallowing, localized or generalized symptoms, tremor, weakness, pain, numbness, paresthesia, incoordination, difficulty with bladder or bowel control.

- a. Cranial nerve symptoms: change in smell, Diplopia, change in vision, blind spots, difficulty with speech, swallowing, or chewing, facial numbness or drooping, change in hearing, tinnitus
- b. Motor system: paralysis, atrophy, involuntary movements, seizures, gait, incoordination.
- c. Sensory system: pain, paresthesia, hyperesthesia, anesthesia
- d. Mentation: orientation, memory. Reading and writing. Loss of consciousness.

20. **PSYCHIATRIC:** Rapid changes in mood, memory loss, phobias, hallucinations, sleep disturbances, problems with coping, suicide, (attempts or thoughts), anhedonia, frequent crying

Review of Systems - Lay terms

GENERAL: Any problems with your sleep? energy level? appetite? Any recent change in your weight? Any fever, chills? Any problem with excess thirst? Does the heat or cold bother you more than it bothers most people?

SKIN: Any problem with your skin...itching, bruising, growths? changes in moles or a freckle? Any problem with skin moisture...too dry, too oily?

HEAD: Any problem with headaches, dizziness, blackouts?

EYES: Do you have any trouble with your vision? blurred vision? double vision? Do you ever see spots or flashes? Any problem with discharge, redness, itchiness, or tearing?)
Do bright lights bother your eyes?

EARS: Do you have any difficulty with your hearing or ringing in your ears? pain in your ears? itching? drainage?
Do you have any difficulty with dizziness? a sensation that the room is spinning around you?

NOSE/THROAT/MOUTH: Any mouth or throat problems...hoarseness, difficulty swallowing, pain, or swelling?
Any problems with your teeth or gums?

BREASTS: Any problems with pain, swelling in your breast? Any discharge? lumps?

RESPIRATORY: Do you get short of breath or have pain with breathing? Do you get short of breath with activity?
Do you ever wheeze? Do you ever wake up at night short of breath? (Can you go up one/two flights of stairs without stopping? Would you have to stop to catch your breath at the top?) Do you cough up phlegm or blood?

CARDIOVASCULAR: Do you ever have chest pain? Do you ever wake up in the middle of the night short of breath? Have you increased the number of pillows that you sleep on to help you breath at night? Do you have skipped or rapid beating of your heart? Have you ever passed out? Do you have a problem with swelling or cramping in your legs? Have you ever noticed a color change in your fingers or toes when exposed to cold temperature? Do you have varicose veins

GI: Do you ever have trouble swallowing or painful swallowing? Any problems with heart burn? Have you been sick to your stomach? Have you vomited? ever vomited blood? Do you have belly pain, cramps or bloating? Any problems with bowel movements? (Diarrhea? Constipation? Noticed any blood in your stools or black or tarry stools.

GU: Do you have any problems with urination? (Any burning when you pass your urine? Are you passing urine more frequently? When you feel the urge to urinate, do you feel like you have to go right away? Is the force of your urine stream as strong as it always was? Do you have incontinence...trouble controlling your urine?) Do you have or have you had blood in your urine?

GENITAL SYSTEM:

- a. Gynecological - Do you have any vaginal discharge, itching, growths or lumps?
- b. Male Genitalia - Do you have any discharge from your penis? pain, lumps, or growths? testicular pain or swelling?
- c. Sexual Problems - Are you satisfied with your sexual function? What difficulties do you have, if any? Has your desire for sexual activity changed recently? Do you have pain with intercourse?

MENSTRUAL-REPRODUCTIVE HISTORY: Do you have any difficulties with your periods? pain? bleeding between periods? irregular cycles? intervals without periods? heavy bleeding? prolonged periods? Have your periods stopped? Are you having any hot flashes or sweating as your periods are changing? bleeding after menopause completed? Do you have any emotional reactions to beginning (menarche(or ending your periods (menopause)?

ENDOCRINE SYSTEM: Do you have any change in weight? energy level? unexplained changes in behavior? Any neck growths? feelings of warmth or cold when others are not? excessive sweating? eye bulging? shaking of your hands that is not voluntary? loss or thinning of hair? Any excessive thirst? frequency of urination? Any change in facial features/appearance? size of hands or feet? Any loss of pubic hair? hair growth in locations you haven't had it before?

MUSCULO-SKELETAL SYSTEM: Do you have any bony pain? tenderness? joint pain? swelling? or stiffness? Do you have limited movement of any joint or in neck/back that seems greater than others? Do you have any weakness? back pain?

HEMATOLOGICAL: Do you have any lumps in your neck? under your arms? or in your groin? History of bleeding or bruising?

NERVOUS SYSTEM: Do you have any fainting, dizziness, convulsions/seizures or "fits"? difficulty with or change in speech? swallowing? hand or head shaking that isn't voluntary? localized weakness, pain, numbness or tingling? difficulty with balance? bladder or bowel control?

- a. Cranial nerve symptoms - Do you have any change in smell? vision (double vision, blurry vision?) speech, swallowing, chewing? Any drooping of the face or eyes? change in hearing? ringing or buzzing in your ears?
- b. Motor system - Any paralyzed part of the body? loss of muscle bulk? involuntary movements? difficulty with walking? coordination?
- c. Sensory system - Any pain, numbness, tingling, or increased sensitivity of a body part?
- d. Mentation - Any change in your thinking? sense of where you are? your memory? reading or writing ability?

PSYCHIATRIC: Any change in mood? new fears/phobias? Do you ever see or hear things that aren't there? Do you have any difficulty sleeping? coping with life stresses? feelings about ending your life? plans to end your life? Do you cry frequently and for no reason? Do you no longer get pleasure from things that used to give you pleasure?

Outline of Comprehensive Adult Health Risk Behavior History

Tobacco Use

- Current use
- Past Use

Current Smokers:

- ADVISE TO QUIT
- Quit history
- Use of NRT/Meds for Quitting
- **Readiness to Quit**
- Counsel as indicated

Alcohol Use

- Current Use
- Past Use

Possible Problem Drinkers:

- CAGE if indicated
- Readiness to cut down or quit
- Counsel as indicated

Drug Use

- Current Use
- Past Use

Current Users

- Readiness to quit
- Advise to cut down or quit
- Counsel as indicated

Diet

- 24 hour dietary recall
- Frequency of high fat foods
- **Frequency of fruits/vegetables**
- Frequency of high calcium foods

High fat or low fruit/vegetable eaters:

- Readiness to change diet
- Advise to change
- Counsel as indicated

Exercise

- Leisure time physical activity
- Work/housework activity

Sedentary patients:

- Readiness to exercise
- Advise to exercise
- Counsel as indicated

Sun Exposure

- History of unprotected sun exposure

Sun exposed patients:

- Advise sunblock
- Counsel as indicated

Injury Prevention

- Seatbelt Use
- Motorcycles/bicycle helmets
- Smoke detectors
- Safe storage of firearms
- Fall prevention (elderly)

Sexual Behavior

- Current sex partners
- Current sex practices
- Current use of contraception
- Past high risk exposures/practices

Having High Risk Sex:

- Advise safe sex
- Advise contraception
- Counsel as indicated

PROBLEM LIST, ASSESSMENT AND PLAN

After you have written up a complete history, ROS, physical exam, and labs, the problem list, assessment and plan is what comes next.

Below is a description and examples for each component.

Problem List

Those issues which the patient and/or you identify as concerns. These may be physical, psychological or social. There may be several at each visit.

Example:

1. Chest pain
2. Weight gain
3. Tobacco Abuse

Assessment

This is what you think is causing the problem (i.e. the diagnosis) or a list of multiple possible causes (i.e. the differential diagnosis).

Example:

1. Chest pain - atypical in nature, heartburn-like, occurring only supine easily relieved with antacids. Differential diagnosis includes: GI - probably GERD, most likely because of previous mentioned characteristics, musculoskeletal - still most likely GI but given chest wall tender to palpation on exam suggests component of costochondritis (inflammation of joint spaces between sternum and ribs) as well, cardiac - but less likely because no significant risk factors and atypical pain, pulmonary - very unlikely, no symptoms referable to this system.
2. Weight gain - patient does not watch diet or exercise regularly. (note - not a diagnosis but a description of the cause)
3. Tobacco abuse - long-time smoker, does not want to quit. (note - not a diagnosis but a description of the pattern)

Plan

This is what you are going to do about each problem. This includes diagnostic test, if indicated, and treatment.

Example:

1. Chest pain
 - start H2 blocker
 - call in 2 weeks to report progress
 - will hold NSAIDS for now for costochondritis till reflux improved
 - followup as indicated, may need UGI if no significant improvement with H2 blocker
2. Weight gain
 - patient interested in starting weight watchers, encouraged to do so
 - patient agrees to daily walking program of twenty minutes
 - return visit 3 months
3. Tobacco abuse
 - long discussion with patient regarding importance of quitting, patient unwilling to quit at this time, will discuss at future appointments

Put it all together and it looks like this:

1. Chest pain - atypical in nature, heartburn-like, occurring only supine, easily relieved with antacids. Differential diagnosis includes: GI - probably GERD, most likely because of previous mentioned characteristics, musculoskeletal - still most likely GI but given chest wall tender to palpation on exam suggests component of costochondritis (inflammation of joint spaces between sternum and ribs) as well, cardiac - but less likely because no significant risk factors and atypical pain, pulmonary - very unlikely, no symptoms referable to this system
 - start H2 blocker
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 - will hold NSAIDS for now for costochondritis till reflux improved
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 - patient interested in started weight watchers, encouraged to do so
 - patient agrees to daily walking program of twenty minutes
 - return visit 3 months
3. Tobacco abuse - long-time smoker, does not want to quit
 - long discussion with patient regarding importance of quitting, patient unwilling to quit at this time, will discuss at future appointments

H2 Blockers – acid blocking medications such as ranitidine (Zantac)

GI - gastrointestinal

UGI – upper gastrointestinal series – x-ray study to rule out ulcers or gastritis

GERD – Gastroesophageal reflux disease

NSAIDs – non-steroidal anti-inflammatory drugs – such as ibuprofen (Motrin, Advil).

Prescription writing:

1. Patient Information – name and age are usually sufficient.
2. Medication name and strength – Prefaced by the **Rx** symbol which is short for *recipe*, the Latin word translated as ‘to take’. A good habit is to write the generic name; most medications come in milligram strengths (mg).
3. Directions: Customarily prefaced by the abbreviation ‘**Sig**’ which is short for *signetur*, a Latin word translated as ‘let it be labeled’. This will be on the label – so this needs to be the same as the directions told to the patient.

Many other Latin abbreviations are traditionally used in the directions, examples listed below:

- BID (bis in die) – twice a day
- TID (ter in die) - 3 times a day
- po (per os) - by mouth
- prn (pro re nata) - as needed
- q 4 h (quaque 4 hora) - every 4 hours

Concern over medical errors has limited the use of such abbreviations, for example qd (once daily), is now a ‘prohibited’ abbreviation and is recommended to be written as ‘daily’.

4. The amount prescribed is calculated to cover the expected duration of the treatment. For example if the patient is to take penicillin (an antibiotic) BID for 10 days – then the amount dispensed would be 20, with no refills. If the patient is to take atenolol (a blood pressure medication) daily - 30 would be dispensed for the month, with 11 refills (to last the year), or alternatively many prescriptions are written for 3 months (90 days) with 3 refills to last the year. These are all now done primarily electronically.

Overview of Clinical Problem Analysis* FOM 1 & FOM2

1. Initial Data Gathering using "scanning history"

Chief Complaint

Seven cardinal features of the chief complaint

2. Identify the key problem/s

3. Generate conditional hypotheses

Strategies to help generate hypotheses:

A. Systems Approach

B. Anatomic Approach

C. Pathophysiologic Approach

D. General Classes of Disease (VINDICATE=Vascular, Infectious, Neoplastic, Drug, Inflammatory, Collagen-vascular, Allergic, Toxic, Environmental)

4. Gather further data to test hypotheses

A. Pertinent Review of Systems (ROS questions from the system(s) in which chief complaint may fall)

B. PMH that could be related to diseases that present with the chief complaint

C. FH that could be related to the chief complaint

D. SH that could be related to the chief complaint

E. Gather condition specific data Ask detailed (disease based) questions about specific conditions to refine knowledge. These are questions that don't fit into above categories (nausea in patient with headache is something that you likely need to think of migraine or elevated intracranial pressure which then makes you ask about nausea.)

F. Physical exam findings

5. Formulate a solution

Synthesize findings and differentiate problems:

A. List Findings (all pertinent data)

↳ B. Group Findings into clusters

↳ C. Generate Problem List

↳ D. Generate Differential Diagnoses (for each problem)

E. Order Diagnoses in your Differential from most likely to least likely and defend your differential (using probability, epidemiologic clues, pattern recognition, pertinent positives and negatives)

F. Develop Action Plans

F1. Diagnostic plan (when diagnosis isn't certain)

F2. Treatment plan

F3. Monitor patient for

Complications of disease
Complications of treatment and improvement

*Adapted from Custers: Academic Medicine 75(3):291 3/2000 "Clinical Problem Analysis: A Systematic Approach to Teaching Complex Medical Problem Solving."

NOTE –Underlined categories will be a focus in DCS 2, while **bolded** categories will be a focus of DCS1

- The first four steps will allow you to gather **an integrated History of Present Illness**, gathering the seven cardinal features, form hypotheses as to what could be causing the problem and then test the hypotheses by gathering additional focused information to help you determine which diagnosis is more likely than the others
- Those questions that you ask to test the hypotheses make up what we consider pertinent positives (e.g. a symptom, risk factor, risk behavior, PMH, FH, SH associated with disease processes that present with such a chief complaint **which is present** in the patient—thus making the disease more likely) and pertinent negatives (e.g. a symptom, risk factor, risk behavior, PMH, FH, SH associated with likely disease processes that could present with such a chief complaint **which is absent** in the patient—thus making the disease less likely)
- As you **Formulate the Solution**, you will make a list of all pertinent data from the history, the physical exam, and any tests that have been completed. You will then sort these into groups or clusters of findings that fit together. Next you will generate a problem list that encompasses each of your clusters. For each problem, you will then generate and defend a differential diagnosis, order the differential by probability and develop an action plan.