Back to Basics:

Concepts in Reviewing Charts, Identifying Patient Problems, Assessing Compliance, and Presenting Patients

Introduction

The following is a collection of reference information for students on rotation. It includes guides for thought processes for evaluating patients and drug therapies and compliance. It is hoped that by practicing using these concepts, students will develop a basic thought process for identifying and solving patient problems. Also included are guidelines to assist students preparing for formal and informal patient presentations. Much of this material has been presented in previous coursework.

Preceptors are welcome to use any of this material for teaching purposes. The content may be adapted to the unique characteristics of a practice site or expertise of a preceptor.

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Reviewing Drug Therapy in a Patient Chart

- Begin by identifying the reason(s) for the patient's admission. This may be thought of in two ways - the patient's chief complaint (e.g. fever, coughing, chills…) and the admitting or "working" diagnosis (e.g. pneumonia). This starts the patient's problems list.

- Next, consider all major active and inactive medical problems, completing the problems list. The problems identification schemata may be helpful. See below.

- When evaluating drug therapy, consider how drug therapy may influence major disease processes. For example, use of NSAIDs in a patient with an ulcer. Also consider the reverse – how medical problems can alter the drug regimen. For example, dose adjustments of renally cleared drugs in patients with renal insufficiency/failure.

- Evaluate whether all the drugs are necessary by comparing the active problems list with the medication list. An indication for each drug prescribed should be found in the problems list. If there are drugs without corresponding problems, either the problems list is incomplete, or the drugs may not be necessary. Reviewing the patient's records from previous admissions or clinic visits and interviewing the patient may be needed to determine the necessity of these drugs. Questions regarding the need for drugs should be addressed. An example from a progress note is, "Patient was started on allopurinol *(specify date and initial prescriber if known)* for prevention of tumor lysis syndrome. However, he is no longer receiving chemotherapy. Would reassess need for allopurinol."

- Evaluate the effectiveness of the therapy, considering adverse as well as therapeutic effects.

    - ✓ Determine the therapeutic endpoints (e.g., lowering blood pressure with antihypertensive drugs). Is appropriate monitoring with respect to determining efficacy and toxicity being done?
    - ✓ Are the efficacy endpoints reached? If not, why? This step includes an assessment of compliance, which can be done by reviewing medication refill patterns if you have access, or by calling the patient's regular pharmacist. It is also important to discuss with the patient how medications are taken at home. See compliance assessment guidelines below. Compliance is generally a problem when the patient does not believe the therapy is beneficial or is experiencing adverse effects. In either case, patient education may be helpful, but one should also consider alternative regimens. When compliance is not the issue, the adequacy of the prescribed therapy with respect to selection of drugs and dosage should be examined, and alternate regimens considered.

- To accomplish the above, information regarding the disease state(s) being treated and the drug therapy being prescribed should be reviewed. Reading

textbooks, practice guidelines, or review articles is appropriate. Sources to start with are textbooks of therapeutics or internal medicine. The next level would be specialty textbooks such as psychiatry, rheumatology, cardiology, infectious diseases, etc. It may also be helpful to look for a pertinent treatment guideline or review article. Searching for primary research articles is often time consuming without much yield for finding this type of information. Ask your preceptor for guidance.

- Sources that may be useful in finding information about therapeutic uses and toxicity of drugs include Drug Information, Myler's Side Effects of Drugs, and Martindale's Extra Pharmacopeia. Again, ask your preceptor for guidance.

Example Case

- When discussing a patient to a preceptor or other health care team member, be prepared to discuss information about the disease state and its therapy as well as information about the particular patient.

- The first step is to formulate a brief summary of the patient's admission.

  Mr. Jones is a 30-year-old male who presented to the ER with complaints of shortness of breath and coughing for 2 hours. He has no past medical history and takes no medication. On examination his right leg was swollen and warm. A venogram revealed DVT in the right leg. A V/Q scan revealed PE. He was begun on heparin with a 10,000 units bolus and 1,000 units/hour. His initial PT/PTT were 12/36. Four hours (at 2300) after starting heparin his PT/PTT were 14/>100. Heparin was stopped for 3 hours and lowered to 900 units/hour. This morning his PT/PTT are 12/39.

- Next, develop a therapeutic plan considering anticipated clinical outcomes and monitoring of therapy. Following the above example, the PTT for Mr. Jones should be 1.5-2 times the baseline value. So, the target should be 54 to 72 seconds. Some practicality should be used here. If the PTT was 52 or 80 it might not be worth "fine tuning" by a few units/hour. Consider the toxicity of heparin and how to monitor for toxicity. Consider drug interactions in order to anticipate problems (even if no other drugs are being given). Consider the need for long term anticoagulation. When should warfarin be started? What should the target INR be for this patient? Would it be the same for every patient receiving warfarin? Consider toxicity of warfarin and how to monitor for toxicity and consider drug interactions in order to anticipate changes if drugs are added or stopped.

- When monitoring patients, use flow sheets to greatly enhance the ability to observe trends. Unless trends are being followed, it would be easy to overlook increasing serum potassium concentrations in a patient taking spironolactone, until the patient becomes hyperkalemic, for example. A flow sheet should include significant laboratory values, specific physical findings (e.g. weights for

CHF, abdominal girth for ascites, leg circumference, pain, tenderness for DVT), and the drug therapy being monitored.

- Written notes in the chart should be complete and coherent. One must communicate such that misunderstanding does not occur. For Mr. Jones, an initial progress note from the pharmacy service could look like this.

10/15/92 1200 Clinical Pharmacy Services
***S**: Feeling less pain in the leg now than on admission. No shortness of breath currently.*
***O**: 38 yo male admitted with SOB, cough, R leg pain on 10/ restarted at 900 units/hour. Lab data on flow sheet.*
Afebrile, wt 85 kg, BP 120/80, P 80.
Current meds include heparin, acetaminophen 650 q 4 prn, MOM 30 ml hs prn.
***A**: Currently not anticoagulated (PTT 39). Possible that initial PTT >100 seconds not accurate since only approximately 2 hours from time of administration to time of drawing PTT. Generally need to wait 4-6 hours after changes in heparin to determine PTT. Also one study has demonstrated diurnal variation in PTT in heparinized patients, being highest at 2300. Possible this also contributed to elevated PTT.*
***P**: Would consider bolus with 5000 units of heparin and infusion of 15-25 units/Kg/h. For this patient the dose would be 1200-1300 units/hour initially. Would recheck PTT in 4-6 hours after restarting therapy and adjust PTT to range of 55-75 seconds.*
I would also consider starting warfarin as soon as heparin stabilized. Recent prospective and retrospective studies have shown that early oral anticoagulation results in earlier discharge from the hospital without a decrease in the efficacy of therapy. Would aim for a target INR of 2-3. Would start at 10 mg daily. Expect the maintenance dose to be higher than 5 mg daily. Needs education regarding drug interactions and monitoring of anticoagulation. Will discuss these problems with Mr. Jones while hospitalized. Can follow in Pharmacy Clinic for anticoagulation if needed.14 pm. Nuclear medicine venogram and V/Q scan revealed DVT and PE. Begun on heparin 10,000 units then 1000 units/hour. Bolus dose administered at 2100 per med sheets. PTT this am 39 seconds. PTT at 2300 > 100 seconds. Heparin was stopped at 0100 for 3 hours and

- Follow-up notes are shorter, but complete. Do not need to repeat data previously described. Point to the flow sheet for lab data. Summarize changes since last Pharmacy note.

Problems Identification Schemata

There are three basic types of problems on which a pharmacist may be called upon to solve.

1. Those arising form the patient
2. Those due to the drug therapy
3. Those related to the diagnoses

Before you can come up with an assessment (A) and develop a plan (P) to solve the patient's problem(s), you must first collect a data base(S&O). This includes a review of the patient record, patient interview, and review of basic information regarding each disease state the patient has and each drug the patient is on. Once you categorize this information (according to patient, drug, or disease characteristics), apply the schemata below.

Patient	Drug	Disease
Compliance Mental/psych status Age/sex Weight/BMI/BSA Kidney/Liver function Idiosyncratic/genetic	Pharmacology – Mechanism of action and extension of that effect Side effect Adverse effect Pharmacokinetic interactions – ADME Pharmacological/physiological interactions	Can disease or its known complications cause the problem? Is treatment effective? If not, why? -incorrect diagnosis -incorrect treatment Can the disease or concurrent medical problem interfere with drug action?

The 3 C' s of Chronic Disease Management

- **Control** – Look for indicators of control
  - Symptoms
  - Laboratory
  - Physical exam
  - Increasing doses, intensity of monitoring, or adding new drug to regimen

- **Compliance** – Assess compliance
  - Profile/chart review
  - Pill count
  - Patient responses during consultation
  - Different meds not refilled at the same time
  - Assess proper use of administration/self monitoring devices
  - Direct questioning of patient
  - Missed appointments

- **Complications** – Identify and address complications
  - Disease based problems (i.e. Laboratory/diagnostic parameters, new prescriptions added to regimen)
  - Drug-based problems (i.e. new prescription to treat side effects of another medication

Compliance Assessment

Suspect compliance problems when

- Therapeutic targets are not met (i.e. HbA1c, lipid profile, BP, etc.)
- Patient gains weight
- Dosages of chronic medications are increased or new medications added
- Patient volunteers information regarding difficulties following diet, exercise, or medication regimen
  - ✓ Red Flags
    "I don't see why I have to take this anyway."
    "I hate to have to take medications."
  - ✓ Pink Flags
    "I'm *supposed* to take it three times a day."
    "My doctor *wants* met to take it three times a day."
    "The doctor says I *should* take it three times a day."
- Medication possession ratio (MPR) fall below 0.8
- Patient doesn't pick up current refill in spite of reminder call

When a compliance problem is suspected

- Verify that prescriptions have not been filled elsewhere.
- Probing questions
  - ✓ Direct probe
    "What kind of problems have you had in taking your medications?"
  - ✓ Universal statement
    "Many patients have some difficulty in remembering to take medications."
  - ✓ Supportive compliance probe – Let the patient know you are aware of potential difficulties, and that you are concerned.
    "I noticed that you didn't get your ________ refilled today or last time you came in. I'm concerned there might be a problem."
- Acknowledge that taking medication regularly is a difficult task and that you would like to help.
- Ask what kinds of problems they are having remembering to take their medication/follow diet/exercise.
- Ask them what they think the problem is. Probe for details. For example, ask them about the situations that cause them to miss medication – have them recount the last occurrence or specific occasions of missed medication. Evaluate the details surrounding those events.
- Ask them what they think they could do to improve compliance. If multiple potential solutions come up, steer them to trying one at a time (i.e the one they think is best or easiest).
- Ask them what they think you could do to help
- Make sure that the problem is not self-efficacy, meaning that the patient doesn't feel they can be compliant, especially with complex therapies involving multiple drugs, diet, and life-style interventions. If this is the case, start again using a stepwise approach.

If the problem is remembering

- Ask how they remember now
- Have them describe situations in which they forget
- Ask what they think will help them remember
- If they can't think of anything, make suggestions, couched in *"what has worked for another patient"* or *"what another patient told me that works is…"*
- After giving several suggestions, ask which one they think might help. If they can't identify with one of your suggestions, make a list of alternatives and encourage them to choose from the list. As a last resort, recommend from the list.
- Suggestions for remembering problems
    - ✓ Use refill reminders, and fix any pre-authorization problems that delay refills
    - ✓ Tie medication to daily routine
    - ✓ Time – Connect medication with a particular daily activity (meal, brushing teeth, going to bed, etc..)
    - ✓ Location – Place medication in place associated with daily activity (i.e. with the cups or dishes used at mealtime).
    - ✓ Have someone remind them
    - ✓ If having trouble remembering if they took it, think of something they can go back and look at to know if they took it *(*i.e. check lists, daily containers - if empty med was taken, lay the bottle sideways after taking medication)

If regimen too complex

- Ask them how they take all their medications by time and dose
- Ask them what they think they can do to simplify it
- If they can't think of anything, make suggestions, couched in *"what has worked for another patient"* or *"what another patient told me that works is…"*
- After giving several suggestions, ask which one they think might help. If they can't identify with one of your suggestions, make a list of alternatives and encourage them to choose from the list. As a last resort, recommend from the list.
- Suggestions for complex regimens
    - ✓ Arrange regimen such that pills are taken no more than twice a day
    - ✓ Arrange them by time using containers/bins
    - ✓ Purchase an organizer or make one from egg cartons
    - ✓ Have some one help you get organized
    - ✓ Offer to set up organizer weekly
    - ✓ Call MD to simplify regimen especially if complexity is interfering with compliance/control

If the patient isn't "ready" for treatment or is unsatisfied with care

- Not convinced they need medication
  - ✓ Ask them how they feel about disease and risks and benefits of treatment. Confirm they are aware of facts.
  - ✓ Provide information. Offer to talk with them about any aspect of the disease
  - ✓ Encourage them to participate through demonstration of caring attitude
  - ✓ Discuss openly alternative treatments if requested
  - ✓ Get them to try a part of the regimen, as a first step
  - ✓ Assess locus of control/transtheoretical model stage and implement appropriate intervention
- Upset with HMO - Intervene when problems with medications occur, helping patient find appropriate method to deal with problems, acting as coach or resource person for authorizations or if patient decides to switch HMO's.
- Unhappy with MD - Help patient identify why they are unhappy, encouraging patient to talk with PCP about specific concerns, coaching patient if needed. If suggest changing PCP, may have to coach patient in explanation to current PCP.

If the medication itself is the problem, from patient's perspective

- Ask them what's wrong with the medication
- Ask them what they think they can do to correct it
- If they can't think of anything, make suggestions, couched in *"what has worked for another patient"* or *"what another patient told me that works is…"*
- After giving several suggestions, ask which one they think might help. If they can't identify with one of your suggestions, make a list of alternatives and encourage them to choose from the list. As a last resort, recommend from the list.
- Suggestions for specific problems
  - ✓ Difficulty swallowing - Education regarding technique/call MD to switch to easier to swallow med
  - ✓ Trouble opening bottles - Issue non child proof containers
  - ✓ Actual side effect – Recommend a change in how med is taken that may minimize problem - i.e. take with meal, get up slowly, take at different time of day. Call MD for alternative prescription.
  - ✓ Perceived side effect - Recommend a change in how medication is taken that may minimize problem- i.e. take with meal, get up slowly, take at different time of day. May also probe patient for reason behind perception that medication is causing a problem, and educate patient accordingly. Call MD for alternative prescription.
  - ✓ Perceived non-efficacy – Ask patient why they think medication does not work. Patient may require education regarding use of generic medications and problems with assuming that a medication that didn't work for someone else isn't working for them.

Guidelines for Case Presentations

Why we present patients

- To learn – discussion of cases with preceptors
- To provide care
    - ✓ Patient care rounds
    - ✓ Seeking advise from consultants and peers
    - ✓ Seeking cooperation from other health care professionals
    - ✓ Persuading others regarding therapy plans and changes
- To educate
    - ✓ Sharing experience gained
    - ✓ Formal presentations – seminars, CE programs

Presenting patients is a skill, essential for effective communication with other healthcare providers, and therefore essential for effective pharmacy practice.

Preparation considerations

- Define purpose of presentation
- Determine audience/preceptor expectations
- Collect patient data
- Review patient's current therapy
- Review disease state
- Review all therapeutic options
- For formal presentations on rotation, discuss outline with preceptor

Consider **breadth** as well as **depth** of information when preparing for a presentation.

Patient data collection

The potential importance of all the following points should be considered. However, there are situations in which commenting on each point is time consuming and undesirable. Adapt the level of detail to the situation, but always include pertinent issues in your discussion. When presenting patient data in patient care settings, items 2,3, and 4 may be considered most important. However, the most pertinent issues (positive and negative) of items 5-9 should be included.

1. General Information at Time of Admission
    - Patient initials
    - Age
    - Race
    - Sex
    - Admission date
    - Chief complaint, admitting/working diagnosis
2. History of Present Illness (HPI) : Briefly state in chronological order the presentation of symptoms and clinical events leading to this admission. Also state pertinent absence of symptoms.

3. Physical Examination
    - Vital signs, weight
    - Any positive or pertinent negative physical findings on examination should relate to the clinical presentation
4. Results of Initial Laboratory Tests
    - SMA-6, CBC (H & H), Urinalysis
    - CXR, EKG
    - Any other studies ordered on admission
5. Review of Systems - List any pertinent positive or negative findings elicited during systems review.
6. Past Medical History (in chronological order)
    - Childhood illnesses
    - Adult illnesses
    - Hospitalizations
7. Patient's Family History
    - Positive for what disease
    - Negative for what disease
    - Does any disease run in patient's family
    - Conditions of spouse
    - Conditions of offspring (or siblings for a child)
8. Patient's Social History
    - Smoking: when started, number of packs per year, when stopped
    - Alcohol: what, how much, when
    - Drug abuse: what, how much, when
    - Occupation
    - Marital status
    - Living conditions
9. Medication History
    - Rx dose and frequency
    - OTCs
    - Allergies/intolerances with description of reactions
10. Patient's Problem List and Work-up Plans: List each problem found in the patient's history and found in physical exam and/or laboratory data. With each problem, list the plans made to evaluate and correct the problem. Make sure you know the major disease states relating to the problem, purpose of diagnostic tests ordered, and reasons for the selected drug therapy, and be prepared to present/discuss these issues.
11. Patient's Hospital Course: Summarize the patient's hospital course, emphasizing pertinent positive and negative laboratory/diagnostic tests, patient symptomatology, therapy, and monitoring parameters for efficacy and toxicity of therapies.
12. Discharge Data
    - Final diagnosis, if changed since admission
    - Discharge medications
    - Plan for follow-up
    - If patient expired, include significant autopsy/pathology findings
    - Note: If patient is being presented prior to discharge, summarize current patient status

Discussion of a Patient Case

The flow of discussion of a case presentation is directed by the presenter. At the end of the discussion, the following question should have been answered: "Did the patient receive optimal drug therapy for his disease state and symptomatology?" To answer this question, the presenter must decide on the best drug, dose, dosage form and dosing interval and compare that therapy with other options. A firm grasp of the disease state and drug therapy will be needed.

The case as an introduction
If a case presentation is to be used in a formal rotation presentation, it is often to introduce discussion of a disease state or therapeutic issue. The following format is suggested.

1. Introduction - Background of patient's case
2. Citation of pertinent literature on the topic, including recent and classic/landmark study citations
3. Your conclusions based on these studies
4. Outcome of patient
5. Your recommendation for care of patients with similar diagnoses
6. List of references

The student should be prepared to answer specific questions about the case, the disease state, and pertinent therapeutic agents. The following is a guideline to prepare for this discussion.

Disease State: Be prepared to compare the patient's presentation, treatment, and hospital course to the "classic" presentation, treatment, and prognosis of the disease by considering the following:

1. Definition of disease state
2. Epidemiology: Incidence and prevalence
3. Etiology
4. Pathology
5. Signs and symptoms
   - Clinical/Physical exam, including typical presentation/chief complaints associated with disease state
   - Laboratory/diagnostic tests
6. Drug therapy: Conventional and investigational
7. Natural course of disease and prognosis: Treated and untreated

Drug Therapy of Your Patient: Know the pharmacokinetics, pharmacology, drug interactions, toxicology, and monitoring parameters of your patient's drugs and drugs commonly used to treat the disease state(s) of interest.

1. Pharmacokinetics
   - Absorption: Sites and agents/foods that may affect absorption
   - Distribution: Protein binding and biologic half-life
   - Metabolism: Sites, pathways, activity of metabolites
   - Excretion
   - Normal times for onset, maximal, and duration of activity
   - Incompatibility and stability in solutions
2. Pharmacology
   - Major actions and mechanisms
   - Clinical uses: accepted and investigational
   - Normal dosing ranges for specific clinical uses (e.g. proton pump inhibitor doses for GERD vs. ulcers vs. hypersecretory conditions)
3. Drug Interactions
   - Be aware of all possible interactions with this drug and mechanisms if known
   - Make special note of any potential drug interactions during your patient's hospital course
4. Monitoring Parameters
   - For efficacy
   - For toxicity
5. Toxicology
   - Typical adverse effects
   - Symptoms and treatment of overdose, including potential problems in treating overdose
   - Addiction potential (physical or psychological)
   - Teratogenicity
6. Counseling for oral medications
   - Indication
   - Regimen, use instructions
   - Possible adverse reactions
   - Compliance tips