

History of Present Illness (HPI)

Obtaining an accurate history is the critical first step in determining the etiology of a patient's problem. A large percentage of the time, you will actually be able to make a diagnosis based on the history alone. The value of the history, of course, will depend on your ability to elicit relevant information. Your sense of what constitutes important data will grow exponentially in the coming years as you gain a greater understanding of the pathophysiology of disease through increased exposure to patients and illness. However, you are already in possession of the tools that will enable you to obtain a good history. That is, an ability to listen and ask common-sense questions that help define the nature of a particular problem. It does not take a vast, sophisticated fund of knowledge to successfully interview a patient. In fact seasoned physicians often lose site of this important point, placing too much emphasis on the use of testing while failing to take the time to listen to their patients. Successful interviewing is for the most part dependent upon your already well developed communication skills.

What follows is a framework for approaching patient complaints in a problem oriented fashion. The patient initiates this process by describing a symptom. It falls to you to take that information and use it as a springboard for additional questioning that will help to identify the root cause of the problem. Note that this is different from trying to identify disease states which might exist yet do not generate overt symptoms. To uncover these issues requires an extensive "Review Of Systems" (a.k.a. ROS). Generally, this consists of a list of questions grouped according to organ system and designed to identify disease within that area. For example, a review of systems for respiratory illnesses would include: Do you have a cough? If so, is it productive of sputum? Do you feel short of breath when you walk? etc. In a practical sense, it is not necessary to memorize an extensive ROS question list. Rather, you will have an opportunity to learn the relevant questions that uncover organ dysfunction when you review the physical exam for each system individually. In this way, the ROS will be given some context, increasing the likelihood that you will actually remember the relevant questions.

The patient's reason for presenting to the clinician is usually referred to as the "Chief Complaint." Perhaps a less pejorative/more accurate nomenclature would be to identify this as their area of "Chief Concern."

Getting Started:

Always introduce yourself to the patient. Then try to make the environment as private and free of distractions as possible. This may be difficult depending on where the interview is taking place. The emergency room or a non-private patient room are notoriously difficult spots. Do the best that you can and feel free to be creative. If the room is crowded, it's OK to try and find alternate sites for the interview. It's also acceptable to politely ask visitors to leave so that you can have some privacy.

If possible, sit down next to the patient while conducting the interview. Remove any physical barriers that stand between yourself and the interviewee (e.g. put down the side rail so that your view of one another is unimpeded... though make sure to put it back up at the conclusion of the interview). These simple maneuvers help to put you and the patient on equal footing. Furthermore, they enhance the notion that you are completely focused on them. You can either disarm or build walls through the speech, posture and body language that you adopt. Recognize the power of these cues and the impact that they can have on the interview. While there is no way of creating instant intimacy and rapport, paying attention to what may seem

like rather small details as well as always showing kindness and respect can go a long way towards creating an environment that will facilitate the exchange of useful information.

If the interview is being conducted in an outpatient setting, it is probably better to allow the patient to wear their own clothing while you chat with them. At the conclusion of your discussion, provide them with a gown and leave the room while they undress in preparation for the physical exam.

Initial Question(s):

Ideally, you would like to hear the patient describe the problem in their own words. Open ended questions are a good way to get the ball rolling. These include: "What brings your here? How can I help you? What seems to be the problem?" Push them to be as descriptive as possible. While it's simplest to focus on a single, dominant problem, patients occasionally identify more than one issue that they wish to address. When this occurs, explore each one individually using the strategy described below.

Follow-up Questions:

There is no single best way to question a patient. Successful interviewing requires that you avoid medical terminology and make use of a descriptive language that is familiar to them. There are several broad questions which are applicable to any complaint. These include:

1. **Duration:** How long has this condition lasted? Is it similar to a past problem? If so, what was done at that time?
2. **Severity/Character:** How bothersome is this problem? Does it interfere with your daily activities? Does it keep you up at night? Try to have them objectively rate the problem. If they are describing pain, ask them to rate it from 1 to 10 with 10 being the worse pain of their life, though first find out what that was so you know what they are using for comparison (e.g. childbirth, a broken limb, etc.). Furthermore, ask them to describe the symptom in terms with which they are already familiar. When describing pain, ask if it's like anything else that they've felt in the past. Knife-like? A sensation of pressure? A toothache? If it affects their activity level, determine to what degree this occurs. For example, if they complain of shortness of breath with walking, how many blocks can they walk? How does this compare with 6 months ago?
3. **Location/Radiation:** Is the symptom (e.g. pain) located in a specific place? Has this changed over time? If the symptom is not focal, does it radiate to a specific area of the body?
4. **Have they tried any therapeutic maneuvers?:** If so, what's made it better (or worse)?
5. **Pace of illness:** Is the problem getting better, worse, or staying the same? If it is changing, what has been the rate of change?
6. **Are there any associated symptoms?** Often times the patient notices other things that have popped up around the same time as the dominant problem. These tend to be related.
7. **What do they think the problem is and/or what are they worried it might be?**
8. **Why today?:** This is particularly relevant when a patient chooses to make mention of symptoms/complaints that appear to be long standing. Is there something new/different today as opposed to every other day when this problem has been present? Does this relate to a gradual worsening of the symptom itself? Has the patient developed a new perception of its relative importance (e.g. a friend told them

they should get it checked out)? Do they have a specific agenda for the patient-provider encounter?

For those who favor mnemonics, the 6 dimensions of a medical problem can be easily recalled using OLD CARTS (**O**nset, **L**ocation/radiation, **D**uration, **C**haracter, **A**ggravating factors, **R**elieving factors, **T**iming and **S**everity).

The content of subsequent questions will depend both on what you uncover and your knowledge base/understanding of patients and their illnesses. If, for example, the patient's initial complaint was chest pain you might have uncovered the following by using the above questions:

The pain began 1 month ago and only occurs with activity. It rapidly goes away with rest. When it does occur, it is a steady pressure focused on the center of the chest that is roughly a 6 (on a scale of 1 to 10). Over the last week, it has happened 3 times while in the first week it happened only once. The patient has never experienced anything like this previously and has not mentioned this problem to anyone else prior to meeting with you. As yet, they have employed no specific therapy.

This is quite a lot of information. However, if you were not aware that coronary-based ischemia causes a symptom complex identical to what the patient is describing, you would have no idea what further questions to ask. That's OK. With additional experience, exposure, and knowledge you will learn the appropriate settings for particular lines of questioning. When clinicians obtain a history, they are continually generating differential diagnoses in their minds, allowing the patient's answers to direct the logical use of additional questions. With each step, the list of probable diagnoses is pared down until a few likely choices are left from what was once a long list of possibilities. Perhaps an easy way to understand this would be to think of the patient problem as a Windows-Based computer program. The patient tells you a symptom. You click on this symptom and a list of general questions appears. The patient then responds to these questions. You click on these responses and... blank screen. No problem. As yet, you do not have the clinical knowledge base to know what questions to ask next. With time and experience you will be able to click on the patient's response and generate a list of additional appropriate questions. In the previous patient with chest pain, you will learn that this patient's story is very consistent with significant, symptomatic coronary artery disease. As such, you would ask follow-up questions that help to define a cardiac basis for this complaint (e.g. history of past myocardial infarctions, risk factors for coronary disease, etc.). You'd also be aware that other disease states (e.g. emphysema) might cause similar symptoms and would therefore ask questions that could lend support to these possible diagnoses (e.g. history of smoking or wheezing). At the completion of the HPI, you should have a pretty good idea as to the likely cause of a patient's problem. You may then focus your exam on the search for physical signs that would lend support to your working diagnosis and help direct you in the rational use of adjuvant testing.

Recognizing symptoms/responses that demand an urgent assessment (e.g. crushing chest pain) vs. those that can be handled in a more leisurely fashion (e.g. fatigue) will come with time and experience. All patient complaints merit careful consideration. Some, however, require time to play out, allowing them to either become "a something" (a recognizable clinical entity) or "a nothing," and simply fade away. Clinicians are constantly on the lookout for markers of underlying illness, historical points which might increase their suspicion for the existence of an underlying disease process. For example, a patient who does not

usually seek medical attention yet presents with a new, specific complaint merits a particularly careful evaluation. More often, however, the challenge lies in having the discipline to continually re-consider the diagnostic possibilities in a patient with multiple, chronic complaints who presents with a variation of his/her "usual" symptom complex.

You will undoubtedly forget to ask certain questions, requiring a return visit to the patient's bedside to ask, "Just one more thing." Don't worry, this happens to everyone! You'll get more efficient with practice.

Dealing With Your Own Discomfort:

Many of you will feel uncomfortable with the patient interview. This process is, by its very nature, highly intrusive. The patient has been stripped, both literally and figuratively, of the layers that protect them from the physical and psychological probes of the outside world. Furthermore, in order to be successful, you must ask in-depth, intimate questions of a person with whom you essentially have no relationship. This is completely at odds with your normal day to day interactions. There is no way to proceed without asking questions, peering into the life of an otherwise complete stranger. This can, however, be done in a way that maintains respect for the patient's dignity and privacy. In fact, at this stage of your careers, you perhaps have an advantage over more experienced providers as you are hyper-aware that this is not a natural environment. Many physicians become immune to the sense that they are violating a patient's personal space and can thoughtlessly over step boundaries. Avoiding this is not an easy task. Listen and respond appropriately to the internal warnings that help to sculpt your normal interactions.

The Rest of the History

The remainder of the history is obtained after completing the HPI. As such, the previously discussed techniques for facilitating the exchange of information still apply.

Past Medical History: Start by asking the patient if they have any medical problems. If you receive little/no response, the following questions can help uncover important past events: Have they ever received medical care? If so, what problems/issues were addressed? Was the care continuous (i.e. provided on a regular basis by a single person) or episodic? Have they ever undergone any procedures, X-Rays, CAT scans, MRIs or other special testing? Ever been hospitalized? If so, for what? It's quite amazing how many patients forget what would seem to be important medical events. You will all encounter the patient who reports little past history during your interview yet reveals a complex series of illnesses to your resident or attending! These patients are generally not purposefully concealing information. They simply need to be prompted by the right questions!

Past Surgical History: Were they ever operated on, even as a child? What year did this occur? Were there any complications? If they don't know the name of the operation, try to at least determine why it was performed. Encourage them to be as specific as possible.

Medications: Do they take any prescription medicines? If so, what is the dose and frequency? Do they know why they are being treated? Medication non-compliance/confusion is a major clinical problem, particularly when regimens are complex, patients older, cognitively impaired or simply disinterested. It's important to ascertain if they are actually taking the medication as prescribed. This can provide critical information as

frequently what appears to be a failure to respond to a particular therapy is actually non-compliance with a prescribed regimen. Identifying these situations requires some tact, as you'd like to encourage honesty without sounding accusatory. It helps to clearly explain that without this information your ability to assess treatment efficacy and make therapeutic adjustments becomes difficult/potentially dangerous. If patients are, in fact, missing doses or not taking medications altogether, ask them why this is happening. Perhaps there is an important side effect that they are experiencing, a reasonable fear that can be addressed, or a more acceptable substitute regimen which might be implemented. Don't forget to ask about over the counter or "non-traditional" medications. How much are they taking and what are they treating? Has it been effective? Are these medicines being prescribed by a practitioner? Self administered?

* You'll be surprised to learn how many patients don't know the answers to these questions. Encourage them to keep an up to date medication list and/or write one out for them. When all else fails, ask the patient to bring their meds with them when they return or, if they are in-patients, see if a family member/friend can do so for them.

Allergies/Reactions: Have they experienced any adverse reactions to medications? The exact nature of the reaction should be clearly identified as it can have important clinical implications. Anaphylaxis, for example, is a life threatening reaction and an absolute contraindication to re-exposure to the drug. A rash, however, does not raise the same level of concern, particularly if the agent in question is clearly the treatment of choice.

Smoking History: Have they ever smoked cigarettes? If so, how many packs per day and for how many years? If they quit, when did this occur? The packs per day multiplied by the number of years gives the pack-years, a widely accepted method for smoking quantification. Pipe, cigar and chewing tobacco use should also be noted.

Alcohol: Do they drink alcohol? If so, how much per day and what type of drink? Encourage them to be as specific as possible. One drink may mean a beer or a 1/2 oz glass of whiskey, each with different implications. If they don't drink on a daily basis, how much do they consume over a week or month?

Other Drug Use: Any drug use, past or present, should be noted. Get in the habit of asking all your patients these questions as it can be surprisingly difficult to accurately determine who is at risk strictly on the basis of appearance. Remind them that these questions are not meant to judge but rather to assist you in identifying risk factors for particular illnesses (e.g. HIV, hepatitis). In some cases, however, a patient will clearly indicate that they do not wish to discuss these issues. Respect their right to privacy and move on. Perhaps they will be more forthcoming at a later date.

Obstetric (where appropriate): Have they ever been pregnant? If so, how many times? What was the outcome of each pregnancy (e.g. full term delivery; spontaneous abortion; therapeutic abortion).

Sexual Activity: This is an uncomfortable line of questioning for many practitioners. However, it can provide important information and should be pursued. As with questions about substance abuse, your ability to determine on sight who is sexually active (and in what type of activity) is rather limited. By asking all of your patients these questions, the process will become less awkward. Do they participate in intercourse? With persons of the same or

opposite sex? Are they involved in a stable relationship? Do they use condoms or other means of birth control? Married? Health of spouse? Divorced? Past sexually transmitted diseases? Do they have children? If so, are they healthy? Do they live with the patient?

Family History: In particular, you are searching for heritable illnesses among first or second degree relatives. Most common, at least in America, are coronary artery disease, diabetes and certain malignancies. Patients should be as specific as possible. "Heart disease," for example, includes valvular disorders, coronary artery disease and congenital abnormalities, of which only coronary disease has genetic implications. Find out the age of onset of the illnesses, as this has prognostic importance for the patient. For example, a father who had an MI at age 40 is not a marker of genetic predisposition while one who had a similar event at age 20 certainly would be. Also ask about any unusual illnesses among relatives, perhaps revealing evidence for rare genetic conditions.

Work/Hobbies/Other: What sort of work does the patient do? Have they always done the same thing? Do they enjoy it? If retired, what do they do to stay busy? Any hobbies? Participation in sports or other physical activity? Where are they from originally? These questions do not necessarily reveal information directly related to the patient's health. However, it is nice to know something non-medical about them. This may help improve the patient-physician bond and relay the sense that you care about them as a person. It also gives you something to refer back to during later visits, letting the patient know that you paid attention and really remember them.

Military Service: For obvious reasons, serving in the armed forces can be an important period in someone's life. In addition, inquiring about physical trauma, mental health issues (PTSD, depression, substance abuse), and unusual exposures (toxins, infections) may reveal important information.

In recounting their history, patient's frequently drop clues that suggest issues meriting further exploration. If, for example, they are taking anti-hypertensive or anti-anginal medications yet made no mention of cardiac disease, additional history taking would be in order. Furthermore, if at any time you uncover information relevant to the chief complaint don't be afraid to revisit the HPI.

Adult Review of Systems (ROS)

Overview

The review of systems (or symptoms) is a list of questions, arranged by organ system, designed to uncover dysfunction and disease. It can be applied in several ways:

1. As a screening tool asked of every patient that the clinician encounters.
2. Asked only of patients who fall into particular risk categories (e.g. reserving questions designed to uncover occult disease of the prostate to men over 50).
3. To better define the likely causes of a presenting symptom, as described in the HPI section (e.g. patients w/a chief concern of "chest pain" would be asked detailed cardiac and pulmonary ROS).

So, what's the best way to use the ROS? I have always been dubious of its utility as a broadly applied screening tool. Using it in this fashion makes sense if the following hold true:

- a. The questions asked reflect an array of common and important clinical conditions
- b. These disorders would go unrecognized if the patient was not specifically prompted
- c. The identification of these conditions then has a positive impact on morbidity/mortality

Unfortunately, aside from a few very specific screening tools (e.g. perhaps depression), there is little evidence to support these assumptions. In fact, positive responses to a screening ROS are often of unclear significance, and may even create problems by generating a wave of additional questions (and testing) that can be of low yield. For these reasons, many clinicians (myself included) favor a more targeted/thoughtful application of ROS questions, based on patient specific characteristics (e.g. age, sex) and risk factors (e.g. history of diabetes → vascular ROS). This strategy, I think, is both more efficient and revealing. As you gain experience, you can make an informed decision about how you'd like to incorporate the ROS into your overall patient care strategy.

It's important to realize that historical Q&A is just one piece of the clinical puzzle. Patient's responses must be interpreted within the context of the rest of their profile, including: risk factors, past history, and exam findings. For example, a patient whose ROS is positive for chest pain, would then be asked to define the dimensions of this symptom including: duration, precipitating events, severity, characterization, radiation, associated symptoms, etc (or questioning using [OLD CARTS](#) mnemonics). In addition, an assessment of cardiac risk factors and an organized search for exam findings indicative of vascular disease (e.g. elevated BP, diminished peripheral pulses, audible bruits, etc) would be very relevant. On the basis of the sum of this data, the clinician can come to an informed conclusion about the importance/cause of this patient's chest pain (e.g. angina, heartburn, pulmonary embolism, etc), and use it to guide their subsequent decision making.

Guide To Using This ROS

There is no ROS gold standard. The breadth of questions included is somewhat arbitrary, based on the author's sense of the most commonly occurring illnesses and their symptoms. There is planned redundancy, as the same symptoms often apply to multiple organ systems. Feel free to edit/adapt to fit your clinical needs. Realize that exotic or regional illnesses might require other ROS questions. In addition, some sub-specialty areas use an expanded ROS, specific to the conditions that they evaluate and treat.

I've added a few novel features, designed to clarify why an ROS question is asked and in what direction the response should lead. These include:

- a. Clicking on the main questions reveals a list of common disorders that might be at the root cause of the particular symptom.
- b. Comments in parentheses that follow include other symptoms and/or historical features commonly linked to that particular disorder.
- c. "Red flag" indicates symptoms that are particularly worrisome for a serious illness.
- d. Where possible, I've bundled the diagnostic possibilities into clinically logical groupings (e.g. acute/chronic, painful/painless, upper/lower, etc).

I would like to highlight several important limitations:

- a. The list of possible diagnoses that follows a question is not exhaustive. In addition please realize that no patient responses are pathomonomic.
- b. Common associated symptoms, risk factors, exam findings, and selected links to additional info are provided in (parentheses) after most items on the differential. This is only meant to point you in the right direction in terms of possible diagnoses – it is not meant to be inclusive.
- c. The disease categorizations reflect rough groupings. There are many exceptions. For example, disorders listed in the "acute" section may have chronic presentations, those described as "upper abdominal" may present w/thoracic symptoms, etc.

Clicking on the main categories reveals a list of broad questions. Clicking on any of these symptoms questions reveals a list of common disorders that might be at the root cause of the particular symptom.

General

Vision

Head and Neck (H&N)

Pulmonary

Cardiovascular (C/V)

Gastrointestinal

Genito-Urinary

Hematology/Oncology

Ob/Gyn/Breast

Neurological

Endocrine

Infectious Diseases

Musculoskeletal

Mental Health

Skin and Hair