CLINICAL AND COMMUNICATION SKILLS

Queen's University

Resource Guide

For Tutors and Students

CLINICAL AND COMMUNICATION SKILLS

Resource Guide

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Preface

Introduction

A life course

… the education upon which (the medical student) is engaged is not a college course, not a medical course, but a life course, for which the work of a few years under teachers is but a preparation.

Sir William Osler (1849 – 1919)

In The Clinical and Communication Skills Course, students will begin to learn the professional skills that are unique to being a clinician and a physician. The course provides the foundational skills in communication and physical examination which are essential for a successful career.

Each term builds on the skills of the previous, so that by the end of the second year, students will have the necessary skills to begin clerkship. In the first year, with the guidance of tutors, students will learn how to identify the core presenting problem of a patient, and gather the additional historical and physical examination data which will help to reach a diagnosis and management plan. In the second year, the focus is on the development of clinical reasoning and the introduction of more advanced interviewing and communication skills.

Overall Course Goal

The overall course goal is to enable students to develop core clinical skills on which they can build to become caring, competent clinicians.

Overall Course Objectives:

At the end of the pre-clerkship Clinical Skills course a student will be able to demonstrate:

- Professional attitudes and behaviours that promote respectful relationships with patients and members of the health care team
- Insight into his/her abilities and willingness to use feedback and self-reflection to improve as a clinician
- Communication skills that promote a therapeutic doctor-patient relationship and effective information-sharing
- Interviewing skills that elicit the important elements in a patient's medical history, including the patient's illness experience
- Physical examination skills that respect the patient's comfort and dignity and are correctly selected, performed and interpreted relative to the clinical situation
- Clinical reasoning that integrates information acquired from the clinical encounter with other sources of knowledge, including that derived from self-directed learning, to arrive at diagnostic hypotheses and therapeutic plans
- The ability to prepare written and verbal reports that accurately and efficiently convey relevant clinical information according to current standards for medical records

Specific Objectives

Professional Attitudes and Behaviours

The student shall be able to:

1. Describe the key elements of an effective doctor patient relationship.
2. Describe and appreciate the difference between disease and the patient's experience of illness
3. Demonstrate insight into his/her skills as a physician and practise self-reflection as a means of developing clinical skills
4. Demonstrate effective, respectful interactions with colleagues and health care professionals including preparation and participation in group activities, and the ability to provide and utilize effective feedback.
5. Practice confidentiality regarding patient information.
6. Demonstrate consideration for the privacy, comfort and safety of the patient at all times.
7. Demonstrate a spirit of enquiry in broadening his/her clinical knowledge.

Communication Skills

The student shall be able to:

1. Establish rapport with a patient and involved family member.
2. Show compassion, interest and understanding for the patient as a person.
3. Demonstrate patience, and a non-judgmental attitude toward a patient.
4. Demonstrate effective verbal and non-verbal communication skills that indicate he/she is actively listening to the patient.
5. Use effective questioning techniques including:
    - appropriate use of open- and closed-ended questions
    - transitional statements
    - summary statements
    - allowing the patient to complete the answer to the question asked.
6. Use language during the interview that will promote patient understanding, and avoid medical jargon.
7. Apply appropriate communication skills in difficult interviews.

The Medical Interview

The student shall be able to:

1. Appreciate the value of a good history in clinical diagnosis.
2. Identify the chief complaint(s) and elicit a complete history of the present illness.
3. Describe major symptoms using the standard ("sacred seven") qualifiers.
4. Elicit and appreciate the patient's experience of the illness, utilizing the FIFE (Function, Ideas, Feelings, Expectations) approach.
5. Acquire a complete medical history including history of present illness, medications and allergies, past medical history, family history, life circumstances, and a complete review of systems.
6. Have an organized approach to the interview that establishes the agenda for the visit, follows the patient's narrative thread while maintaining a logical structure and managing time
7. Within the limits of the student's knowledge and experience, educate a patient about a clinical problem or plan of care.
8. Within the limits of the student's knowledge and experience, develop a diagnostic and treatment plan in collaboration with a patient.
9. Complete a thorough interview in less than 30 minutes.

The Physical Examination

The student shall be able to:

1. Demonstrate courtesy, respect, and concern for a patient's privacy and comfort when conducting a physical examination.
2. Drape a patient for appropriate exposure during the examination.

3. Use correct basic physical examination techniques for each system (components as outlined in the Physical Examination on the MEdTech website and Queen's Physical Examination Manual).
4. Use appropriate core and advanced examination techniques to evaluate a specific clinical problem in a focused physical examination.
5. Integrate the examination of multiple systems into an efficient and organized examination.
6. Complete a thorough physical examination in less than 30 minutes.
7. Adapt the physical examination for the ambulatory and non-ambulatory patient.

Knowledge and Clinical Reasoning

The student shall be able to:

1. Generate diagnostic hypotheses and refine them during the patient encounter.
2. Identify and prioritize clinical problems.
3. Integrate information from the clinical encounter to achieve a working diagnosis and differential diagnoses for a clinical presentation.
4. Utilize information from self-directed learning to select diagnostic tests to refine common diagnoses.
5. Utilize information from self-directed learning to recommend basic therapies for common conditions.

Medical Reporting

The student shall be able to:

1. Prepare an accurate and succinct written report of a clinical encounter that reflects current standards for medical records and includes
    - a problem list
    - the clinical information (components as outlined in the Medical Record Section on the MEdTech website)
    - problem formulation and analysis
    - diagnostic and therapeutic plans.
2. Present an organized and concise (< 5 minute) verbal summary of a clinical encounter that summarizes the information listed in (1).

Routine Practices and Additional Precautions

Protecting patients and health care workers by practicing appropriate infection control is a professional responsibility.

All students will be able to:

1. Appreciate the methods and risks of contact and droplet transmission.
2. Describe the importance of hand hygiene in reducing transmission of microorganisms and infection.
3. Demonstrate appropriate hand hygiene techniques in all encounters.
4. Practice correct procedures for preventing blood borne infections during procedures.

5. Describe the principles behind using gloves, gowns and masks to protect from microorganism and infection transmission.
6. Demonstrate the correct sequence of hand hygiene and applying, removing and disposing of gloves, gowns and masks on entering and leaving an isolation room.
7. Demonstrate appropriate technique of a surgical scrub.

Paediatric Specific Objectives

The student should be able to:

1. Establish rapport with children of all ages;
2. Involve children in the interview process;
3. Establish rapport with parents.
4. Obtain a comprehensive pediatric interview. Historical data gathered in such an interview includes not only the presenting complaint, history of the present illness and past medical history but also:
    - a detailed prenatal history, birth history and feeding history (where relevant);
    - information related to physical growth and development of secondary sex characteristics;
    - information relating to gross motor, fine motor, cognitive, and social development;
    - information about behavior problems commonly seen in childhood and adolescence;
    - information related to well-child care such as immunizations and hearing and vision screening;
    - a comprehensive review of the child's social situation;
    - a relevant family history;
    - a review of systems appropriate to a pediatric case.
5. Conduct a physical examination on a pediatric patient - this involves:
    - approaching small children in a non-threatening fashion;
    - adapting the physical examination to the age and developmental status of the child;
    - specific skills important to Pediatrics (e.g. measurement of head circumference, Tanner staging).

Infancy/Perinatal Objectives

The student should be able to:

1. Assess a normal newborn, and review the immediate care;
2. Review important aspects of the maternal, pregnancy and delivery history, especially with high-risk pregnancies;
3. Review aspects of resuscitation of the newborn, including APGAR scoring in the labour room;

4. Recognize a "sick" neonate;
5. Recognize common neonatal problems including:
    - respiratory distress
    - cyanosis
    - jaundice
    - sepsis
    - problems associated with prematurity.

Assessment

Students will be assessed on their performance in clinical skills by tutors at the mid-term mark and at the end of the term. In order to identify students who may be in need of remediation early and to prevent failures, students will be considered for remediation if any one of the following occurs:

- The student receives a "below average" or "needs improvement" on any component of a tutor's evaluation
- A student fails the OSCE (<60%)
- A student fails more than 30% of the stations on the OSCE (the current standard used by the LMCC).

Assessment of students is further defined on the website.

Chapter

1

PROFESSIONALISM

Attendance

Clinical Skills is an essential component of the undergraduate medical curriculum. Attendance at Clinical Skills is mandatory and is part of each student's assessment by the tutors. Each experience in Clinical Skills has been carefully planned and involves the coordination of the schedules of students, physicians, patients, and staff. As a professional obligation, students must inform tutors and the Clinical Skills staff if they expect to be absent from a session.

Students are evaluated on their professional behaviours at all levels of Clinical Skills. Students who are absent, or consistently late for scheduled clinical skills sessions, without reasonable cause, will be identified specifically as demonstrating shortcomings in professional behaviors. This information will be included in the summative narrative provided to the Associate Dean of Undergraduate Education for use in the Dean's Letter, which comprises part of each student's CaRMS application.

Students expecting to miss a session must obtain approval from the Undergraduate Medical Education office (UGME) at least two weeks prior to the expected absence. To obtain this approval students are required to complete the ***Approval for Time Off Form*** located on the UGME website. Students will receive notification of approval for time off via email from the Undergraduate Medical Education Office. The UGME will then forward this approval to the Clinical Skills Coordinator who will notify anyone affected by this absence including the student's tutors. Since the course is mandatory, all missed sessions will need to be replaced. This is not always practical due to the course's design, so the course director may discuss alternative teaching methods to ensure that each student achieves the objectives of the missed sessions.

Students missing Clinical Skills unexpectedly due to illness or injury must contact the Clinical Skills Coordinator (613-533-6528, clinical.skills@queensu.ca) as soon as possible prior to the absence to ensure that all affected parties can be informed. Since the course is mandatory, all missed sessions will need to be replaced. This is not always practical due to the course's design, so the course director may discuss alternative teaching methods to ensure that each student achieves the objectives of the missed sessions.

Tutors are asked to report any student absences of which they have not been notified by the Clinical Skills Coordinator to the Clinical Skills Coordinator immediately following the session.

Absences from Clinical Skills sessions will be monitored throughout the term. Repeated absences may jeopardize successful completion of the course.

Dress Code

When seeing real, standardized or volunteer patients, students are required to dress in a professional manner. Students may choose a different personal style once graduated and in practice, but while a medical student at Queen's, each student is expected to adopt a somewhat conservative style.

Students are reminded that the majority of patients participating in Clinical Skills have long-term relationships with the medical school's attending physicians. These patients have come to expect a certain level of decorum in these interactions and appropriate professional dress is part of these expectations.

Students are expected to adhere to the following guidelines and this will be monitored by the tutors and address if necessary. However, repeated non-compliance will be considered a professionalism issue and reported to the Director of Clinical Skills and subsequently to the Professionalism Committee.

- Men should wear dress pants and collared shirts.
- Women should wear discreet apparel. Shoulders, cleavage and abdomen should be covered. Excessively tight clothing should be avoided. All skirts should be at least knee length. Underwear should not be visible through clothing nor should the student's abdomen or back be exposed when bending or reaching.
- Long hair should be tied back, and should not touch the patient during a physical examination.
- Running shoes are not acceptable in any clinical environments. Open-toed shoes in clinical areas are prohibited for reasons of safety.

- Student must wear a white clinical jacket with hospital identification at all times. Examination equipment should be carried in a discrete bag.

The same expectations apply during OSCEs as patients will be present.

Scent free

Kingston General Hospital and Hotel Dieu Hospital have strict policies regarding scent-free environments. Therefore, in these environments, refrain from using or wearing scented products such as perfume, cologne, after-shave, lotions or hairspray.

Identification

All health care professionals including medical students must have picture identification with a hospital bar code in order to enter Kingston General Hospital, Hotel Dieu Hospital or Providence Care (all sites). Students must ensure that they have this available for every session regardless of the location.

Ethical Behaviour

Please see the School of Medicine website (http://meds.queensu.ca) for the guidelines governing the ethical conduct of teachers and students at Queen's. If it is felt that an experience in this course has been inappropriate based on those guidelines, concerns should be communicated to the Director of Clinical Skills immediately.

Students experiencing an interaction with a real, volunteer, or standardized patient that is inappropriate or uncomfortable should communicate their concerns to their tutor on the day it happens. The tutor should then communicate the details of the incident to the Clinical Skills Coordinator who will take action as necessary. This will ensure that other students do not have a similar experience with that individual.

Students and tutors may also report any issues directly to the Director of Student Affairs or the Associate Dean.

Confidentiality

Medical students must uphold the professional and legal responsibilities of physicians to maintain confidentiality about patient information. In principle this means that patients' information should only be made available to those involved in their care and with their permission. In practice this means that when patients are discussed for educational purposes their identities and privacy must be protected.

- Students must keep notes about patients and case reports secure.
- Students must not talk about patients in public settings* such as the elevator, cafeteria, or outside the hospital.
- Students must conceal patients' identities in public presentations.
- Students may only access a patient's electronic or paper clinical record for an identified educational purpose or to provide patient care.

**** The concept of public places has expanded in recent years to include not only physical spaces but also virtual ones. Facebook®, Twitter®, teaching sites run by medical schools (e.g., study groups), blogs, wikis, and professional sites run by associations and societies are public spaces. Password protected sites may give users a false sense of security that they're in an exclusive environment.*** [1]

Patients are not simply subjects or specimens for our study but are our neighbours. Students and faculty may well meet patients and their families at the grocery store, gym or bank. Even if a patient's name is not used explicitly, the discussion of a patient's condition in public may be overheard by someone who may be able to identify the patient.

Privacy breaches and inadvertent circulation of private information can be embarrassing to the student, of concern in their education and future practice, and can harm a patient emotionally.

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[1] The Canadian Medical Protection Association. (2010). Using social or professional networking websites can breach confidentiality. Accessed on July 28, 2011 at http://www.cmpaacpm.ca/cmpapd04/docs/resource_files/perspective/2010/02/com_p1002_7-e.cfm#omp_pub_content

Preparation and Participation

The small group tutorial format in Clinical Skills provides an excellent opportunity for students to develop and demonstrate the skills necessary to work effectively with colleagues and other health professionals. Student must therefore be prepared for each session and participate in group activities. Tutors will evaluate their students' performance of these skills throughout the course.

Preparation

It is the responsibility of each student to be prepared for small group activities. To develop confidence and competence students need to practice the skills being taught. Clinical Skills is not a "once a week" course, therefore students should arrange to practice regularly outside of clinical skills class time. Students' performance will be monitored and those who are consistently unprepared will be required to undertake supervised remedial work.

Participation in Small Groups

The ability to work with others is an essential professional skill for physicians. Within the small groups, students will have the opportunity to develop their skills as members of the team, and will have the opportunity to learn from one another. Thoughtful, active participation in small group activities is important for individual student learning as well as other group members' learning. It is also an opportunity for tutors to evaluate student progress.

The following are suggestions for making small group learning effective:

- Learning is fostered by a relationship of trust, support, acceptance and respect. It is everyone's responsibility within the group to promote these attitudes.
- Maintain confidentiality. Students and tutors often share personal experiences during these sessions. **All information revealed in discussion or during the physical examination must remain confidential. What happens in the room stays in the room.**
- Foster nonjudgmental attitudes.
- Focus on understanding, not evaluating each other's' contributions and skills.
- Offer constructive feedback – suggest how a person could have done it differently to be more effective.
- Be open to share experiences that illustrate the relevance of concepts being discussed.
- Take responsibility – each group member is responsible for contributing $1/10^{th}$ of the material, no more and no less.

Giving and Receiving Feedback

To benefit from the small-group environment and tutorial style of learning provided in Clinical Skills, teachers and students need to use feedback effectively. Students will exchange feedback with tutors, other members of their group, and standardized and volunteer patients.

Here are some suggestions to help students to recognize and give effective feedback (modified from the work of George F. Lehner)

- Choose the appropriate time and place for feedback: private, quiet, not rushed.
- Focus on behaviour rather than the person: "You interrupt people frequently" rather than "You are arrogant".
- Make observations rather than inferences: "You're often late for class" rather than "You don't care about this course".
- Offer descriptions rather than judgments: "Our group always seems to start late, can we talk about why that is happening and what we can do about it?"
- Describe behaviours as "less or more" rather than "good/bad": "Try to use more open-ended questions".
- Make your feedback specific and timely to the current situation: "Let's review the history you did this morning," rather than "The history you did last month was rather weak".
- Explore alternatives rather than offer solutions.
- Limit the feedback to a usable amount.

Pendleton's Rules are another useful way of structuring feedback that a group may decide to use. The rules are as follows (adapted from Pendleton et al.,1984):

- Briefly clarify any matters of fact.
- The student discusses what he or she did well.
- The observers discuss what the student did well.
- The student discusses what he or she would do differently, and suggests ways to improve next time.

- The observers discuss what the student would do differently, and makes recommendations for change.

Learning to give and receive constructive criticism is an important skill for all medical professionals. It requires being thoughtful, honest, and humble. Being good at giving and receiving feedback will make a better medical student and doctor, and most importantly, will help our future doctors serve patients better.

Chapter

2

Routine Practices

Routine Practices and Additional Precautions

All health care professionals must practice scrupulous attention to cleaning their hands and equipment to reduce deaths from the spread of infections. It is estimated that annually there is an attributable mortality of over 10,000 deaths and an associated cost to health care of upwards of 1.5 billion dollars in Canadian hospitals. Routine Practices protect patients and health care professionals. There are four moments for hand hygiene that must be observed with every patient encounter.

Ontario's Ministry of Health and Long Term Care has a "Just Clean Your Hands" program aimed at all healthcare providers. Students will receive an orientation session on "Your 4 Moments for Hand Hygiene" during the course.

Your 4 Moments for Hand Hygiene

1. BEFORE initial patient/patient environment contact

WHEN?

Clean hands when entering:

- before touching patient or
- before touching any object or furniture in the patient's environment.

WHY?

To protect the patient/patient environment from harmful infectious agents carried on hands

2. BEFORE aseptic procedure

WHEN? Clean hands immediately before any aseptic procedure

WHY? To protect the patient against harmful germs, including the patient's own infectious agents, entering his or her body

3. AFTER body fluid exposure risk

WHEN? Clean hands immediately after an exposure risk to body fluids (and after glove removal)

WHY? To protect oneself and the health care environment from harmful patient infectious agents

4. AFTER patient/patient environment contact

WHEN? Clean hands when leaving

- after touching patient or
- after touching any object or furniture in the patient's environment

WHY? To protect oneself and the health care environment from harmful patient germs

General Guidelines

- Alcohol based hand rub is the preferred method for performing hand hygiene unless your hands become visibly soiled.
- Wear gloves only when indicated, otherwise they become a major risk for transmission of organisms.
- Carry an alcohol hand rub with your medical instruments, to have available when alcohol is not available at point of care.
- Avoid taking unnecessary items into the patient's environment these could potentially become contaminated.
- Clean your medical instruments, including your stethoscope at least daily and when soiled. An alcohol wipe or hospital grade disinfectant wipe will work equally well.

- If assigned a patient who is in isolation, please ensure the tutor reviews the proper use of the gown, gloves, masks, their disposal and equipment cleaning.

Annually instruction for Routine Practice is provided by Infection Control Practitioners from the teaching hospitals associated with Queen's University Medical School.

Chapter

3

Working with Patients

Addressing Patients

Patients have a right to know who is meeting them and for what purpose. In addressing patients students should ensure that they introduce themselves by their first and last name and clearly identify their role:

"Good morning Mrs. James. My name is Lee Jackson. I am a second year medical student. How would you like me to address you today?

Thank you for giving me a half hour of your time to interview you as part of our Clinical Skills course."

It is most courteous to address patients initially formally ("Miss X", "Mr. Y") and to ask them early in the interview how they wish to be addressed for the remainder of the conversation. Never assume that using their first name is acceptable.

Draping Patients for Dignity

We are all nervous about being physically exposed in front of other people. Paying attention to patients' modesty and comfort will put them at ease, and the physical examination will be more efficient, comfortable, and reliable. Students will be taught how to drape patients for each specific physical examination during the course. Here are some general suggestions for draping for dignity:

- Allow patients to get changed in private.
- It is disconcerting and demeaning to be uncovered unexpectedly. Tell patients what you are going to do before you do it, or allow patients to do it themselves. For example, tell your patient, "I'm going to untie your gown to listen to your chest", before removing the gown. As a general rule, you control the drape and the patient controls their clothing.
- Uncover only the part you are examining, and cover it up when you are done.
- When you are examining the back, or need to move the gown forward at the front, untie the gown
- Remember that many men are just as self-conscious as women about uncovering their entire torso.
- If the anterior chest is being examined in the upright position, a patient can lower the gown to just above the nipple level to examine the upper chest.
- To examine the abdomen, bring the gown up to the xiphisternum and lower the drape to the level of the pubis.
- Keep a patient's naked legs covered with a drape while he/she is sitting or lying unless you are actually examining the legs.
- Place the drape between the legs of a patient while examining the legs.
- Cover the entire buttocks of the patient with the drape before and after a rectal examination.

Working with Volunteer Patients

Volunteer Patients are members of the Kingston community, who volunteer to come as authentic patients to the CEC. While all Volunteer Patients are considered healthy, many have stable chronic medical conditions. Families with young children also volunteer to be interviewed and examined.

The Volunteer Patient sessions provide opportunities for the student to develop focused history-taking and physical examination skills with a person who is dealing with real health issues, but who does not have an acute medical problem. The Volunteer Patient will not be role-playing. The Volunteer Patient's purpose is to provide students with an opportunity to practice their clinical skills, not to diagnose or receive treatment.

The physical examination of a Volunteer Patient does not include a rectal or breast examination. It is up to the individual female Volunteer Patient to choose if she will remove her bra for any part of the examination. The student may, in a respectful manner, ask each volunteer about her preference.

The Volunteer Patient may offer student feedback from the patient perspective on his or her perceptions of the encounter.

When working with the Volunteer Patients, students should remember the following:

- Volunteer Patients are sharing their true names and medical history. Confidentiality must always be maintained. Any information about Volunteer Patients' health status or physical findings must not be repeated outside of the Clinical Skills session.

- Students should introduce themselves to the Volunteer Patient. He/she is an active participant in the session.

- Dress appropriately for a professional encounter with a patient.

- Wear a white lab coat and name tag to all sessions.

Students are reminded to respect that these patients are volunteering their time for their learning. Students unable to attend a session should follow the procedures as outlined in the "Attendance" session of this resource.

Working with Standardized Patients

Each student will have several opportunities to perform a history/interview and/or a physical exam on a Standardized Patient (SP) during Clinical Skills.

What is a Standardized Patient?

A standardized patient is basically a medical actor who is trained to represent a patient situation. This provides students with the opportunity to take a reliable history and practice the physical examination on a person who later will be able to give feedback. This is a particularly excellent opportunity to do a comprehensive physical examination as the standardized patients are not actually ill as is the case with hospitalized patients. Standardized patients are also very valuable for practicing techniques for difficult interviews.

The Standardized Patient is playing the role of someone else from the time he/she meets the student until the history and physical are completed. Usually the patient role is that of a new patient that the students have not previously met. The roles will be clearly defined before each session begins.

The Standardized Patients are trained to provide specific feedback on a student's performance. When the history or physical exam is completed the Standardized Patient will usually change into street clothes and will give feedback to the student.

During the Session

- The physical examination of a Standardized Patient does not include a breast examination or rectal examination. A female Standardized Patient expects to be asked to remove her bra for examination of the cardio-respiratory system.

- If the tutor or the student wants to call a "time out" to discuss any part of the clinical interaction, the Standardized Patient will remain quiet until it is clear the encounter is ready to resume.

- Tutors normally watch from the observation area or join the students in the examining room.

Students are reminded to respect that these patients are giving their time for their learning. Students unable to attend a session should follow the procedures as outlined in the "Attendance" session of this resource.

Working with In–Patients

We are fortunate that so many hospitalized patients are willing to be interviewed and examined by medical students for learning. Each day suitable patients are asked to participate in Clinical Skills by medical residents or nurse recruiters. Hospitalized patients may be quite ill and fatigue easily. Clinical encounters with in-patients are best used for thorough medical histories and focused physical examinations.

General Guidelines

These are some guidelines for making these clinical opportunities optimally productive:

Before entering the room

Extra patients are recruited for each group. Students should note where the back-up patients are located, and where to find their tutor, should the first patient assignment not work out.

- **Check if the patient is in some form of protective isolation.**
    - Review the approach and ask for advice from the tutor or the nurses if unsure.
    - Only take essential equipment into the room.
    - Wash hands before entering the room.
    - It is very important that all students adhere to the infection control guidelines to ensure that students are allowed continued access to in-patients for Clinical Skills.

After entering the room

Introductions

As with any patient, the students should introduce themselves by name and identify themselves as a medical student. Confirm that it is the correct patient, and check to ensure that the patient is still willing to see them.

Tell the patient what is going to happen

"I would like to interview you and do and a brief physical examination".

Assure the patient that it will not take longer than an hour

- Check if they expect visitors or other interruptions during that time, and if they feel they will be able to participate for the full time.
- If they are planning to have visitors, ask if it would be OK for the visitors to wait until you are done.
- Try to negotiate a plan for that eventuality.
    - If the family visit is a priority decide if it is better to a) quit when the visitor comes or b) see another patient now.

Prepare the Area

- Draw the curtains around the bed,
- Check that the lighting is appropriate,
- Check that there is room to move around the bed, sit on a chair and take notes while maintaining eye-contact,
- Have a watch and manage time effectively.

Prepare Yourself

- Be seen to cleanse hands before and after the physical examination.
- Check that all equipment is in working order before the session starts.
- Lay out equipment on a side table in the order in which it is to be used.

Position the bed and patient for the physical examination

- Be prepared to help the patient remove their dressing gown.
- Avoid pushing the red button at the head of the bed: that will call the cardiac arrest team.
- ***Students should practice adjusting hospital beds some time when they are not seeing a patient. Learn how to elevate the entire bed, head and feet, how to move the tray table, draw the curtains, and turn the lights on and off.***

After the encounter is over

- Ensure the patient is comfortable again, with access to water, phone, glasses, etc.
- Take a few minutes to close the encounter. This is important practice for when students will have to discuss diagnoses and treatments. For now, this time should be used to thank the patient for their time and story and for being willing to be examined.
- If possible, the student should sit down on a chair for this brief conversation. Plan closing comments to be genuine and supportive, but avoid banal optimism: "Thank you Mrs. B. I appreciate you giving me your time today so that I could learn about your condition when you are still recovering from surgery. I learned a lot from you today. I hope you enjoy your visit this afternoon with your daughter."
- After leaving the room, cleanse hands, and if the patient was in contact precautions, clean any instruments that were used.

Import items to Remember

It is difficult to effectively and safely assist an unstable patient.

- **Do not try to lift a patient into bed or out of bed if the patient cannot do it alone.**
  Examine the patient as well as possible in the existing position. Or ask the nurse to assist.

- **Some patients are too sick to have a full physical examination.**
  If necessary, organize the physical to do the core vitals and the aspects of

the examination that are most relevant to the presenting illness. Usually this includes at least a basic examination of the thorax and abdomen. Check before-hand if the patient anticipates pain or limitations in mobility. Limit patient movements.

- **If visitors come**,
    - Use the approach negotiated with the patient.
    - Student should introduce themselves and,
    - If possible, let the patient tell the visitor the plan.
- **If the phone rings**:
    - Assist the patient to answer the phone if necessary.
    - Most patients will indicate they are busy.
    - If the patient is intent on having a personal telephone conversation, leave the bedside for a couple of minutes to respect their privacy.
- **If the patient-care team arrives**:
  They will usually let the student keep working, or may briefly interrupt. Watch and learn!
- **If another care-giver arrives (e.g. Physio, Home Care)**:
  Let them know when the session is expected to be done and try to negotiate their return then.
- **If the patient asks opinion about their condition or treatment**:
  The student should indicate that they are learning about these conditions and can't normally offer advice. The student can offer to bring the patient's concerns to the attention of the ward team. Tutors can help to do this.
- **If the tutor plans to review the patient with the student:**
  The patient should be informed that the student may be returning for a few minutes, within the next hour.
- **If a patient is inappropriate**:
  Students should inform their tutor the same day. We do not want to recruit that patient again for another student.
- **Watch the time**.
  Leave about 5 minutes of the hour for closure. If patient becomes exhausted, they will not agree to be seen again during their hospitalization.

Chapter

4

Framework for Patient Encounter

From Introduction to Diagnosis

Medical History

Taking a medical history is an art form. There are many components in a complete medical history, and the medical student's goal is to elicit the information from the patient, while having a pleasant conversation that doesn't seem like an inquisition. The amount of information elicited in a given interview varies depending on the clinical circumstances - some interviews are comprehensive and others are focused on a single clinical problem. This guideline offers a framework for taking a complete history. The order in which a medical history is conducted often mirrors the order the information is presented in a case write-up or an oral report**.**

Introduction

1. Do introductions, including full name and level of training.

   "Hello Mrs. Khan, my name is Jessica Smith and I am a first year medical student at Queen's."

Addressing patient

2. Ask the patient how he or she would like to be addressed:

   "How would you prefer be addressed as Mrs Khan or Rupa?"

Timeframe

3. Negotiate a timeframe for your medical history:

   "We're going to spend about 10 minutes together talking today, and then I'll meet with Dr. James to discuss your concerns, and we'll come back and see you together. Does that sound reasonable?"

4. Spend some time verifying and recording the patient's identifying data, including:

    - Name
    - Sex
    - Date of birth
    - Residence, marital status, occupation
    - If in hospital, admitting doctor, family doctor, and date of admission

    During this time, get a feel for the patient's reliability as a witness, and document it in the case write-up.

Chief Complaint

5. Ask about the chief complaint, and document it in the patient's own words. Remember to allow the patient to speak, interrupting as little as necessary.

    "How can we help you today?"

HPI

6. Elicit the history of the present illness (HPI). This is the main component of the history. When taking the HPI, be sure to keep track of pertinent positives and negatives. Ask about the following components of the HPI:

    - The story of the patient's medical problem in chronological order
    - OLDCAAARTSP when appropriate (onset, location, duration, character, aggravating/alleviating/associated factors, radiation, timing, severity, prior)
    - Any recent past history or events relevant to the HPI
    - Review of systems relevant to the HPI (see Review of Systems)
    - Past history, family history, risk factors and social history relevant to the HPI
    - Medications for that health problem
    - Assessment of activities of daily living (ADLs and IADLs) – include where appropriate
    - The patient's experience of the illness. One model for this is FIFE – function, ideas, feelings, and expectations.

General medical history

7. Ask about the patient's general medical history, including the following components:

    - Past medical and surgical history
    - Medications – prescription, herbals and OTC, including dosing, duration of therapy and adherence
    - Allergies - if allergy present, define reaction

- Family history
- Social history
    - Describe the patient within his or her social context: living arrangements, relationships with family and friends, economic situation, social activities, hobbies, consider spiritual supports if relevant
- Psychological status – general worries, mood, ability to cope with day-to-day activities and illness
- Habits
    - Tobacco - type, amount per day, and years smoked (pack years = packs/day x years smoking)
    - Alcohol: type and amount/day or week. If abuse is suspected, review the CAGE questions (Do you ever think of cutting down?, Are you annoyed if criticized about your drinking?, Do you feel guilty about drinking?, Do you ever use an eye opener?)
    - Recreational drugs: type, amount, duration of use
- Review of systems not covered in HPI (see Review of Systems)

Summarize

8. Summarize the main points of the history with the patient. Ask if he or she has any questions or has forgotten to mention anything important.

"To summarize, Rupa, over the past 3 months, you have had a 4/10 sharp pain in your right knee that is present every time you walk up stairs or get in and out of the car. You've been able to control the pain with Tylenol, and you're still able to do all of your normal daily activities. Because your mum had arthritis, you're worried that you might be headed down that same path, and you'd like to get your knee checked out today. Does that sound correct to you? Do you have any other questions or concerns today?"

Wrap up

9. Wrap up the interview, and let the patient know what will happen next.

"I think I have an understanding of your story, so I'm going to go discuss what you've told me with Dr. James, and we'll come back in together to examine your knee."

Review of Systems (ROS)

The ROS outlines cardinal symptoms that are characteristic of disease in each specific system. The ROS is a systematic scan of all body systems to assess their current status. This review is done and recorded at the end of an interview to ensure that no significant symptoms have been overlooked. The following list should serve as a framework that can be expanded or contracted as the circumstances dictate. This lists the symptoms using the medical terminology with which they would be recorded in the medical record, but the patient is asked about these symptoms using language the patient would understand.

General

- Weight loss / gain
- Fatigue, weakness
- Malaise, lassitude
- Fever, chills, night sweats
- Temperature intolerance
- Skin - rashes, bruises, lesions, moles

Eyes, Ears, Nose, Mouth, Pharynx

- Vision and visual disturbances
- Hearing
- Speech
- Swallowing

- Pain in eyes, ears, throat, tongue
- Discharge from eyes, ears, nose
- Bleeding from nose
- Teeth and/or dentures

Respiratory System

- Cough
- Sputum production (amount, colour, frequency, hemoptysis)
- Chest pain
- Dyspnea
- Wheezing
- Hoarseness
- Smoking history

Cardiovascular System

- Dyspnea: exertional, rest, paroxysmal nocturnal, orthopnea
- Angina
- Palpitation
- Peripheral edema
- Claudication
- Syncope

Breasts

- Lumps, pain, discharge

Gastrointestinal System

- Appetite, diet
- Nausea, vomiting, hematemesis
- Heartburn
- Dysphagia, odynophagia
- Indigestion after meals (flatulence, epigastric fullness, belching)
- Abdominal pain
- Bowel habits - note any change
- Character of stool - note any change
- Hematochezia, melena
- Jaundice

Genitourinary System

- Flank pain
- Suprapubic discomfort/pain
- Frequency and nocturia
- Incontinence
- Dysuria
- Hematuria
- Urethral discharge
- Vaginal discharge
- Testicular pain / discomfort / swelling
- Menstrual cycle
- Sexual function (Sex ASAP: Situation, Ex-partners, Activities, STI, Abuse, Pregnancy and contraception)

Musculoskeletal System

- Joints - pain, stiffness, swelling
- Pain in back, neck

Nervous System

- Loss of consciousness/syncope/ convulsions
- Change in memory, judgment or orientation
- Headaches
- Muscle weakness and/or paralysis
- Sensory symptoms – paresthesias (numbness, tingling)
- Incontinence of urine / feces
- Disturbances of balance; coordination
- Vertigo or dizziness
- Quality of sleep

Emotional Adjustments (sometimes included in Life Situation)

- Worries or tensions
- Stress
- Mood changes, depression
- Problems in personal relationships

Higher cognitive function and affective disorders are assessed in the Physical Examination

Summary of the Full Physical Examination

Just like taking a full history or delivering a case report, performing a full physical exam is an art form. Achieving a flow that is comfortable for the patient and the student requires attention to detail and practice.

In general, each system is examined using inspection, palpation, percussion, and auscultation. Students will develop a unique sequence for doing an efficient examination, which should ideally take approximately 30 minutes As students progress from novices to experts, they will achieve more efficient ways to conduct a physical exam.

The following outline describes the elements of the full physical examination. The content of the full physical exam is context-dependent: for example, a thorough exam of a patient being admitted from the ER is different from a periodic health examination. It is expected that students will include the components outlined in this guideline whenever they are performing a full physical exam, with the exception of those that are marked with an asterisk, which are highly dependent on the clinical scenario.

General Inspection

- **General appearance**
  - Does the patient look:
    - Well or ill? Examples: well, frail, cyanotic, diaphoretic, moribund
    - Comfortable or in pain?
    - Well-kempt or unkempt?
  - Where is the patient resting? Examples: sitting comfortably in a chair, lying in a hospital bed
  - Is any medical equipment supporting the patient? Examples: IV lines, catheters, respirators
- **Skin**
  - Colour: pallor, central and peripheral cyanosis, jaundice
  - Diaphoresis
- **Hands and nails**
  - General appearance: muscle wasting, tremor
  - Colour: peripheral cyanosis, palmar erythema
  - Nails:
    - Nail consistency and texture
    - Splinter hemorrhages (endocarditis)
    - Clubbing

Vital Signs

- Heart rate (rate, rhythm, and character)
- Respiratory rate (rate, rhythm, and effort of breathing)
- Blood pressure (in both arms with the patient seated comfortably)
- Oral temperature

- Height, weight, waist circumference, calculated BMI

HEENT

- **Face**
  - Inspect
    - Skin for lesions, moles, scars, rashes, edema
    - Muscle symmetry, involuntary movements, muscle fasciculations
  - CN V (motor): Ask patient to clench jaw and palpate over masseter muscles and temples
  - CN V (sensory): Test sensation to light touch in 3 divisions of CN V
  - CN VII (motor): Ask patient to wrinkle forehead, close eyes tightly, puff out cheeks, and show teeth. Look for asymmetry of facial expression.
- **Eyes**
  - Inspection
    - Alignment of eyes, excessive tearing or dryness
    - Eyelids
      - Edema, discolouration, colour, lesions
    - Sclera and conjunctiva
      - Colour, vascular pattern, swelling, nodules
    - Cornea, iris and anterior chamber
  - Vision Exam (CN II)
    - Visual acuity
    - Visual fields
    - Extraocular movements (CN III, IV, VI)
    - Pupillary size and constriction (CN II, CN III)
  - Ophthalmoscopic (fundoscopic) examination
- **Ears and Nose**
  - Inspect exterior ears, and exterior nose and nasal mucosa
  - Assess hearing (CN VIII). If abnormal, perform Rinne and Weber tests
  - Examine external acoustic canal and tympanic membranes with otoscope
- **Mouth**
  - Inspect soft and hard palate, anterior and posterior pillars, uvula, tonsils, floor of mouth, base of tongue, retro-molar trigone, gums and teeth
  - Ask the patient to open mouth and say "ah". Observe soft palate and uvula (CN IX, X)
  - Ask the patient to stick out tongue (CN XII). Observe position of tongue and inspect for abnormalities

Neck

- **Inspect**
  - Symmetry, masses
  - Thyroid
- **Palpate**
  - Thyroid
  - Cervical and supraclavicular lymph nodes
  - Trachea to ensure it is midline
  - Carotids (following auscultation)
- **Auscultate**
  - Thyroid
  - Carotids
- **CN XI**: ask patient to shrug shoulders and to turn head side-to-side against resistance

Respiratory

- **Inspect chest**
  - Shape
  - Symmetry of movement, use of accessory muscles of respiration
- **Palpate**
  - Assess symmetry of chest expansion
- **Percussion**
  - Posteriorly
    - Above scapula on each side
    - Rib spaces just lateral to spine, comparing alternate sides
    - Lung bases
    - Lingula and right middle lobe in mid-axillary line
  - Anteriorly
    - Supraclavicular areas
    - Lateral to sternum
- **Auscultation**
  - Sample all lobes in the same places that were percussed
  - Note intensity and quality of breath sounds, and presence of adventitious sounds
  - If abnormalities detected, assess vocal transmission and tactile fremitus
  - Forced expiratory time

Cardiovascular

- **Inspection**
  - Jugular venous pulse (JVP)
  - Precordium
  - Arms and legs
    - Peripheral edema
    - Venous enlargement in lower limbs
    - Distribution of hair distal to knees

- **Palpation**
  - Precordium and apex beat
  - Radial, brachial, femoral, popliteal, posterior tibial and dorsalis pedis pulses
  - Radiofemoral delay
- **Auscultation**
  - Precordium with patient in supine and left lateral decubitus positions
  - Use of correct bell or diaphragm
  - Include abdominal bruits (aortic, renal, iliac, femoral) during the Abdominal Exam

*** Breasts and Axillae (if appropriate)**

- **Inspection**
  - Hands relaxed at the sides
  - Hands above head
  - Hands pressed inward against hips
  - Leaning forward if patient has pendulous breasts
- **Palpation**
  - Axillae and supra/infraclavicular fossae
  - Breast

Abdomen

- **Inspection**
  - Skin
  - Contour, symmetry, masses
  - Peristalsis and abnormal movement
  - Umbilicus
- **Auscultation (before palpation)**
  - Bowel sounds
  - Aortic, renal, iliac, femoral bruits (actually Cardiovascular System)
- **Palpation**
  - Superficial, deep
  - Estimate width of aorta
  - Liver exam (span, inferior edge, texture)
  - Spleen exam(size)
  - Kidney exam (in selected patients)
  - Femoral pulses
- **Percussion**
  - Use when abnormality found to delineate mass, identify tenderness, check for ascites

Musculoskeletal System (GALS)

Note: much of GALS is impractical if patient is bed-bound

- **Gait**
  - Examine the patient standing
  - Inspect the patient walking, turning and walking back
  - Toe walk and heel walk
- **Arms**
  - Inspect the shoulders and arms
  - Ask the patient to do the following motions. It may be helpful to demonstrate them as you ask:
    - "Put your arms above your head, then behind your head, elbows back"
    - "Put your hands behind your back"
    - "Make a prayer sign" (demonstrate to the patient)
    - "Put the backs of your hands together" (demonstrate a negative prayer)
    - "Place both arms straight by your side"
    - "Place both arms out in front, elbows bent 90°, palms down, fingers straight"
    - "Turn your hands over. Make a tight fist" (squeeze the MCPs)
    - "Place the tip of each finger on to the tip of your thumb in turn"
- **Legs**
  - Inspect legs (e.g. quads, knees, look for swelling/deformity)
  - Flex each hip and knee while holding the knee and ankle
  - Passively internally and externally rotate the hip. Note any pain or restriction
  - Palpate for knee effusion
  - Squeeze MTPs
  - Inspect soles of feet
- **Spine**
  - Inspect from behind, front, and side. Note curvature, symmetry, height of iliac crests, other swellings
  - Ask the patient to look up, down, and put chin on each shoulder, then ear on each shoulder
  - Ask patient to bend down and touch toes, and then slide hand down each side of leg

Peripheral Nervous System

- **Inspection**
  - Involuntary movements
  - Muscle symmetry, atrophy
  - Muscle fasciculations
- **Range of Motion**
  - Active then passive
- **Tone**
- **Power**

- **Reflexes**
  - Upper extremities: biceps, brachioradialis, triceps
  - Lower extremities: patellar, ankle, plantar response
- **Coordination**
  - Rapid alternating movement in upper and lower extremities
  - Point-to-point movement (finger-to-nose)
  - Heel-to-shin test
  - Romberg test
- **Gait (if not already assessed in GALS screen)**
  - Assess coordination and balance
- **Screening Sensory Exam**
  - Fine and sharp touch
  - Vibration
  - Proprioception
  - Cortical stimulation
    - Two-point discrimination
    - Graphesthesia
    - Stereognosis
    - Tactile extinction

*** Male Genital Exam (if appropriate)**

- **Inspection**
  - Penis
    - Skin
    - Glans and urethral meatus
  - Scrotum
  - Perineum
  - Inguinal areas
- **Palpation**
  - Penis
    - Shaft
    - Glans
    - Assess meatal patency
  - Scrotum, epididymis, testes, vas deferens, spermatic cord
  - Inguinal nodes
  - External inguinal ring
  - Femoral canal and pulses

*** Gynecological Exam (if appropriate)**

- **Inspection**
  - General
    - Inflammation, discharge, swelling, ulcerations or skin lesions
  - Pubic hair distribution

- Mons pubis, labia majora and minora, clitoris and prepuce, urethral meatus
- Introitus

- **Palpation**
  - Palpate any external abnormalities for consistency and tenderness
- **Internal examination**
  - Prepare materials
  - Insert speculum
  - Inspect cervix
  - PAP smear, cervical swabs if indicated
  - Inspect vaginal mucosa
- **Bimanual examination**
  - Cervix
  - Uterus
  - Adnexa
  - Cul-de-sac

*** Rectal Exam (if appropriate)**

- **Inspection**
  - Buttocks
  - Perianal region
  - Anus
  - Sacrococcygeal area
- **Palpation**
  - Rectum
  - Prostate (if patient is male)

The Oral Case Presentation

Oral presentations relay information to other health professionals who participate in patient care in the hospital, in clinic, or on the telephone. The format and content of a case presentation will vary depending on the setting, but should always be as brief and concise as possible. It is better to have the audience ask questions afterwards than lose interest in the presentation.

Physicians use this skill for their entire careers. Giving a good oral report is an art form that needs an organizational framework. Here are some guidelines for an effective case presentation in Clinical Skills (this example shows timing for a 5 - 6 minute presentation).

Key Features

1. Be brief. Be organized. Be precise.
2. Aim for a 3 minute presentation.
3. Maintain eye contact.
4. Stand up and maintain good posture. Most presentations on the wards will be done standing, so it is good practice to start now.

- Tell the story from memory. Glance at notes only when necessary.
- Use a clear, confident voice.
- Avoid describing the process of the encounter, "I said, then she said..." Rather, describe the facts.
- Do not rationalize or editorialize as you relay information.

Content

1. Headline (10 - 20 seconds)

- One sentence to introduce the patient and grab the audience's attention.
- After the headline, there should be no major surprises for the audience.
- Include the following components:
    - Patient's age and sex
    - Patient's ongoing medical problems, mentioned by name only, and including only the most important (no more than 3 or 4)
    - Patient's reason for presentation
    - Duration of symptoms
- Examples:
    - "Tom Jones is a 71-year-old male with angina, COPD, and type 2 diabetes, presenting with a one-hour history of severe retrosternal chest discomfort that started with exertion."

- "Mary White is a 59 year old woman with history of breast cancer, rheumatoid arthritis, and hypertension who presents with 2 months of bilateral leg weakness."

2. History of Present Illness (1-2 minutes)

- Describe all pertinent positives (positives always before negatives), in chronological order, including:
  - OLD CARTS P (onset, location, duration, character, aggravating/alleviating/ associated factors, radiation, timing, severity, prior) when applicable
  - Constitutional symptoms
  - Relevant review of systems
  - Important risk factors
  - If the complaint is an extension of a previously-diagnosed chronic condition: date of diagnosis, how the diagnosis was made, current symptoms and treatment, and any complications
- Include pertinent negatives, particularly:
  - Constitutional symptoms
  - Relevant review of systems
  - Important risk factors

3. **Relevant History (1 minute)**

- Briefly describe the following features of the medical history:
  - Other medical problems mentioned in the headline
  - Pertinent positives from the remainder of the complete review of systems
  - Patient's past medical history
  - Treatments and tests done to date, if relevant
  - Patient's family's medical history, if relevant
  - Allergies
  - Medications
  - Social history
  - Habits

Note: With experience, students will understand when the above considerations are important in the oral report.

4. **Physical Examination (1 minute)**

- General description of the patient (in no more than 1 sentence)
    - Position, comfort/distress, alertness, level of consciousness
    - Body size, where applicable
- Vital signs
- Area of interest: both positive and negative findings
    - Normal findings should help the audience understand the chief complaint
- All abnormal findings
- Example: "On examination, the patient was alert, lying comfortably in his hospital bed. Heart rate was 80 bpm, resp rate was 16 breaths per minute, and BP was 140/90. Cardiac exam revealed a JVP of 2 cm, no palpable heaves or thrills, normal S1 and S2 with no extra heart sounds or murmurs. Chest sounds included bilateral wheezes on inspiration but no crackles. There was no ankle or sacral edema."

5. **Labs and Data (if available)**

- Present labs in the traditional order: electrolytes/creatinine/glucose, complete blood count, other chemistries, urinalysis, CXR, ECG, gram stains and analysis of body fluids
- Include all abnormal labs and compare to previous values if available
- Include only those normal labs that help the audience understand the chief complaint

6. **Summary (10 - 20 seconds)**

- 1-2 sentence summary of the HPI and physical exam.
    - Example: "In summary, we have a 71-year-old with several coronary risk factors, a previous stent, and a prolonged episode of chest pain. His physical exam is benign but for hypertension and a longstanding wheeze. His ECG showed ST elevation in leads II, III, and aVF, and cardiac enzymes are pending."

7**. Assessment (30 seconds)**

- If diagnosing a new condition, present a differential diagnosis, including:
    - Most likely diagnosis
    - Other common diagnoses
    - Lethal conditions to rule out
- Example: "Mrs. White may be suffering from a spinal metastatic recurrence of her breast cancer, she may be having side effects from her new rheumatological agent, or this could be the beginning of a neurological disease like multiple sclerosis."

8. **Plan (1 minute)**

- Investigations needed to arrive at a diagnosis, beginning with basic ones and including the gold standard test
- Consultations to assist with diagnosis or treatment
- Possible therapies for the most likely diagnosis
- Patient education
- Necessity of obtaining a collateral history
- Example: "Mrs. White should have a bone scan to rule out metastasis to her spine. In the meantime, I will consult with her rheumatologist about the possibility that this could be related to her new meds, and whether we should try stopping them. If the bone scan is negative, we should consider MRI of her spine and referral to Neurology".

Remember:

As a student's medical knowledge and communication skills improve, so will his or her skill at oral case presentations. Practice and learning are both required to master emphasizing relevant information in an interesting and organized presentation, using style as well as substance. With practice, the length of the oral care presentation will become more appropriate to the clinical situation and audience. Keep rising to the challenge of improving - it is a continuous process.

The Case Write-Up

The written medical record is a medico-legal document. It should accurately record the information acquired from the history and physical, and outline the differential diagnosis, plans for investigation, and treatment.

In general, the case write-up is written in the third person. The student should describe accurately what he or she observes using non-derogatory language, establishing the sequence and time course of the patient's symptoms.
Physical exam findings should be documented in a standard order, as outlined in these guidelines. Only conventional short forms should be used. Any omissions to the history or physical exam should be acknowledged and documented.

Formatting Case Write-Ups:

SOAP vs. Complete History and Physical Exam Write-up

Case write-ups take different forms depending on the setting and purpose of the patient encounter. A SOAP note (Subjective, Objective, Assessment and Plan) is a shorter document appropriate for the presentation of an isolated problem (e.g. a broken arm), or for patient follow-up for a specific issue. In the Clinical Skills course, a SOAP note is appropriate for a focused history and physical.
The longer complete history and physical exam write-up is appropriate for complex presentations, systemic diseases, and patients presenting with multiple complaints. In the Clinical Skills course, this format is appropriate for a full history and physical.

Complete History and Physical Exam Write-Up Guidelines

1. History

- Patient identifying data
    i. Name
    ii. Sex
    iii. Date of birth
    iv. Residence, marital status, occupation
    v. Reliability as witness

- Chief complaint in the patient's own words

- HPI - including pertinent positives and negatives
    - The story of the patient's medical problem in chronological order in paragraph form

- Include **OLDCAAARTSP** when appropriate (onset, location, duration, character, aggravating/alleviating/associated factors, radiation, timing, severity, prior) or **Cardinal 7:** location, quality, quantity or severity, timing, setting in which it occurs, aggravating or alleviating factors, associated manifestations.
- Any recent past history or events relevant to the HPI
- Review of systems relevant to the HPI
- Past history, family history, risk factors and social history relevant to the HPI
- Medications for that health problem
- Assessment of activities of daily living (ADLs and IADLs) – include where appropriate

- Past medical and surgical history
- Medications and allergies (if allergy present, define reaction)
- Family history
- Social history and habits
- Review of systems (not covered in HPI)

2. Physical Examination

- General description of patient. Does the patient appear, for example:
  - Well or ill? e.g. well, frail, cyanotic, diaphoretic, moribund
  - Comfortable or in pain?
  - Kempt or unkempt?
- Vital signs: BP, HR (rate, rhythm, character), RR, Temp, O2 sat, weight, height
- Head and neck, including thyroid
- Lymph node assessment
- Respiratory
- Cardiovascular
- Abdominal
- Genitourinary
- MSK – minimum would include GALS screen (gait, arms, legs, spine)
- Screening neurological exam with some assessment of: mental status, speech, language, cranial nerves, motor system, sensory system, reflexes

3. Labs and additional data if available

4. Clinical Impression

- 1-3 sentence summary highlighting key elements of history and physical
- Differential diagnosis
  - Most likely diagnosis
  - Other reasonable diagnoses
  - Serious or lethal diagnoses to be considered: the two most likely and any other reasonable ones

5. Plan of Action

- Short term and long term plans
- Include diagnostics, therapeutics, consultations, patient educations, and follow-up instructions

In practice, the above report would be sufficient. For Clinical Skills write-ups, please include the following section:

6. Discussion of pathophysiology of the chief complaint

- Link reality to theory

See appendix for example

Chapter 5

Guide to Teaching Clinical Reasoning

One of the tasks assigned to clinical teachers is to help students go beyond the description and observation of the patient's problem and move to analysis and interpretation. This assessment often takes place in the clinician's mind, so it seems mysterious to the novice clinician. Many tutors already help their students with clinical reasoning, but this just breaks it down into the steps we use.

The Steps of Clinical Reasoning include

1. Data acquisition
2. Develop a problem representation: decide which information is clinically relevant; present a 1 sentence summary defining the clinical case in abstract terms; use semantic qualifiers
3. Generate hypotheses: Non-analytical vs. analytical reasoning; most successful if only 2-3 hypotheses are considered; include 'most common' and 'worst case' scenario
3. Test your hypotheses: further history; additional maneuvers in the physical exam, using a hypothesis driven PEX; laboratory studies or x-rays (look at reliability, validity, sensitivity, specificity, predictive value)
4. Establish a working diagnosis
5. Develop a plan agreeable to the patient

Non Analytical Clinical Reasoning

- Pattern recognition used by experienced clinicians who retrieve an "illness script"
- The defining and discriminating clinical features of a disease, condition or syndrome become "anchor points" in the clinician's memory

Analytical Clinical Reasoning

- **Hypothetico-deductive**: Sherlock Holmes style of gathering clues and developing a differential diagnosis. Students can try to interpret the information in terms of the probable process:

Pathologic	Pathophysiologic	Psychological
V vascular	examples:	examples:
I infectious	migraine	depression
T trauma	heart failure	headache
A autoimmune		
M metabolic		
I idiopathic		
N neoplastic		
D degenerative		
C congenital		

- **Scheme-inductive**: algorithms

How can the Tutor Help?

- Point out meaningful diagnostic information in the history and PEX
- Eliminate irrelevant information
- Highlight discriminating features along with their relative importance to a diagnosis
- Prompt the student to generate an appropriate problem representation
- Encourage the use of semantic qualifiers in written and oral presentations
- Let students formalize and verbalize their own differential diagnoses after presenting the HPI; then add your own and discuss your reasoning.
- Encourage students to read about at least two diagnostic hypotheses at the same time so that they learn to compare and contrast similarities and discriminating features of diagnoses.

Summarize the History and Physical Findings

The student obtains a history, performs an appropriate examination of a patient, and presents a concise summary to the preceptor. Though the length may vary, the summary generally should be no longer than three minutes. The summary should be condensed to relevant information. In this step, the student should be encouraged to present the case at a higher level of abstraction (i.e.use semantic qualifiers: yesterday becomes acute, third time becomes recurrent)

Narrow the Differential to Two or Three Relevant Possibilities

The student verbalizes what he or she thinks is going on in the case, focusing on the most likely possibilities rather than on "zebras." For a new patient encounter, the student may present two or three reasonable diagnostic possibilities. For follow-up or inpatient visits, the differential may focus on why the patient's disease is active, what therapeutic interventions might be considered, or relevant preventive health strategies. The student must present an initial differential to the preceptor before engaging the preceptor to expand or revise the differential.

Analyze the Differential by Comparing and Contrasting the Possibilities

The student initiates a case-focused discussion of the differential by comparing and contrasting the relevant diagnostic possibilities and discriminating findings. This discussion allows the student to verbalize his or her thinking process and can stimulate an interactive discussion with the preceptor. Students will vary in their fund of knowledge and level of diagnostic sophistication, but all are expected to utilize the strategy of comparing and contrasting to discuss the differential.

Plan Management for the Patient's Medical Issues

The student initiates a discussion of patient management with the preceptor and must attempt either a brief management plan or suggest specific interventions. This step asks for a commitment from the student, but encourages him or her to access the preceptor readily as a rich resource of knowledge and experience.

Select a Case-related Issue for Self-directed Learning

This final step encourages the student to read about focused, patient-based questions. The student should devote time to reading as soon after the encounter as possible. For example, a student would be encouraged to read to answer a question such as, "What is the rationale for the use of ace inhibitors in congestive heart failure?" rather than reading an entire chapter in a review text on heart failure.

Appendix 1

Appendix 1 - Symbols, Abbreviations, Pharmacy Abbreviations, and Diagrams

The following list of symbols, abbreviations, and diagrams can help streamline charting. These conventions are commonly used, but students should recognize that not everyone reading the chart may be familiar with the meanings of these symbols and abbreviations. Additionally, this list is not exhaustive, and there may be abbreviations or conventions common to students and tutors alike that are not on the list. If there is any ambiguity, it is best to write in full – this will make reports and charts 100% clear, and will help keep patients safe.

Symbols

c with (cum)

s without (sans)

♀ female

♂ male

fracture

= equal; equal to

≠ not equal; not equal to

↑ increased

↓ decreased

Abbreviations

A

AAA – abdominal aortic aneurysm
Abdo - abdomen
ABG - arterial blood gas
Afib – atrial fibrillation
AI – aortic insufficiency
AMA – against medical advice
ANC – absolute neutrophil count
A&O - alert and oriented
AOB - alcohol on breath
ARF - acute renal failure
ASAP – as soon as possible

B

BE - barium enema
BG – blood glucose
BM - bowel movement
BMD - bone mineral density
BMI - body mass index
BP - blood pressure
BSO – bilateral salpingo-oophrectomy
BR – bed rest
Bx – biopsy

C

Ca - cancer
CABG - coronary artery bypass graft
CAD - coronary artery disease
CBC - complete blood count
CC - chief complaint
cc - cubic centimetres
CHD - congenital heart disease
CHF - congestive heart failure
CNS - central nervous system
C/O - complains of
COPD - chronic obstructive pulmonary disease
C/S - Caesarean section
C&S or C+S - culture and sensitivity
CT - computerized tomography
CV - cardiovascular
CVA - cerebral vascular accident
CVS - cardiovascular system
CXR - chest x-ray

D

D&C - dilation and curettage
D/C - discontinue or discharge
DDx - differential diagnosis
DNR - do not resuscitate
DKA - diabetic ketoacidosis
DM - diabetes mellitus
DOA - dead on arrival
DOB - date of birth
DTR - deep tendon reflex
DVT - deep venous thrombosis
Dx - diagnosis

E

ECG - electrocardiogram
ECHO - echocardiogram
ECT - electroconvulsive therapy
ED - emergency department
EDC - estimated date of confinement (delivery date)
EEG - electroencephalogram
EGA - estimated gestational age
EOM - extraocular movement
EtOH - ethanol (alcohol)
EUA - examination under anesthesia

F

FAS - fetal alcohol syndrome
FB - foreign body
FBS - fasting blood sugar
FEV1 - forced expiratory flow in 1 second
FHR - fetal heart rate
FHx - family history
FM - fetal movement
FNA - fine needle aspiration
FNF - finger to nose
F/N/V - fever, nausea, vomiting
FOBT - fecal occult blood testing
FOF - found on floor
FTT - failure to thrive
f/u - follow-up
Fx or # - fracture

G
GALS - gait, arms, legs, spine
GI - gastrointestinal
GSW - gunshot wound
GTT - glucose tolerance test
GU - genitourinary

H
H/A - headache
Hb - hemoglobin
HbA1C (also A1C) – hemoglobin A1C
Hct - hematocrit
HEENT – head, ears,
HPI - history of present illness
HR - heart rate
Ht - height
HTN - hypertension
Hx - history

I
IBD - inflammatory bowel disease
ICP - intracranial pressure
ICU - intensive care unit
ID – infectious diseases
I&D - incision and drainage
IM - intramuscular
IMP - impression
inf – inferior
IQ - intelligence quotient
IUD - intrauterine device
IV - intravenous
IVF - in vitro fertilization
IVP - intravenous pyelogram

J
JRA - juvenile rheumatoid arthritis
JVP - jugular venous pressure / pulsation

L
LAD - left anterior descending coronary artery
LBBB - left bundle branch block
LBP - lower back pain
LBW - low birth weight
LLL - left lower lobe
LLQ - left lower quadrant
LLSB – left lower sternal border
LMP - last menstrual period
LOC - loss of consciousness
LP - lumbar puncture
LSB - left sternal border
LUL - left upper lobe
LUQ - left upper quadrant
LV - left ventricle
LVH - left ventricular hypertrophy

M
MAP - mean arterial pressure
MCV - mean corpuscular volume
MI - myocardial infarction
MMSE – mini mental status exam
MR - mental retardation
MRI - magnetic resonance imaging
MS - multiple sclerosis
MVA - motor vehicle accident
MVP - mitral valve prolapse

N
N/A - not applicable
NAD - no acute distress
NIDDM – non insulin-dependent diabetes mellitus
NKDA - no known drug allergies
n.p.o. - nothing by mouth
NSR - normal sinus rhythm
NSTEMI - non ST-elevated myocardial infarction
N/V - nausea, vomiting
NYD - not yet determined

O
O_2 - oxygen
OD - right eye
OCD - obsessive compulsive disorder
OCP - oral contraceptive pills
O/E - on examination
O&P - ova and parasites
OR - operating room

ORIF - open reduction and internal fixation
OS - left eye
OSA - obstructive sleep apnea
OT - occupational therapy
OTC - over the counter

P
PE - pulmonary embolism
PEEP - positive end expiratory pressure
PERLA - pupils equal, reactive to light and accommodation
PHx - past history
PICC - percutaneous inserted central catheter
PID - pelvic inflammatory disease
Plt - platelets
PMHx - Past medical history
PMI - point of maximum impulse of the heart (apical beat)
PMS - premenstrual syndrome
PNS - peripheral nervous system
p.o. - by mouth (per os)
PPD - packs per day (cigarettes)
p.r. - per rectum
p.r.n. - as needed
PT - physical therapy
PTSD - post-traumatic stress disorder

R
RA - rheumatoid arthritis
RAD - reactive airway disease
RBC - red blood cell
RCA - right coronary artery
RDS - respiratory distress syndrome
RDW - red blood cell distribution of width
REM - rapid eye movements
R/O - rule out
ROM - range of motion
ROS - review of symptoms
RR - respiratory rate
RTC - return to clinic
RUL - right upper lobe
RUQ - right upper quadrant
RV - right ventricle
RVH - right ventricular hypertrophy
Rx - treatment

S
SBO - small bowel obstruction
SC - subcutaneously
SE - side effects
SEM - systolic ejection murmur
SHx - social history
SLR - straight leg raise
SOB - shortness of breath
S&S - signs and symptoms
STAT - immediately
STEMI - ST-elevated myocardial infarction
STI - sexually transmitted infection
sup - superior

T
T - temperature
TAH - total abdominal hysterectomy
TB - tuberculosis
T&C - type and cross (blood transfusions)
TENS - transcutaneous electrical nerve stimulation
TIA - transient ischemic attack
TM - tympanic membrane
TMJ - temporomandibular joint
TPN - total parenteral nutrition

U
UA or u/a - urinalysis
UO - urine output
UPGI - upper gastrointestinal
URTI - upper respiratory tract infection
US - ultrasound
UTI - urinary tract infection

V
VA - visual acuity
VBAC - vaginal birth after caesarean section

VF - ventricular fibrillation
VS - vital signs
VSS - vital signs stable

W

WBC - white blood cell
WNL - within normal limits
Wt - weight
w/u - workup

Pharmacy Abbreviations (Sig Codes)

Route of Delivery
IM- Intramuscular
IV – Intravenous
SC –Subcutaneous
PO –Oral
PR – Rectal
SL – Sublingual

Frequency of Administration
bid – twice a day
tid – three times a day
qid – four times a day
hs – at bedtime
ac - before meals
pc - after meals
prn - when needed
q - every (example: q4h – every 4 hours)
s - second
min - minute
h – hour

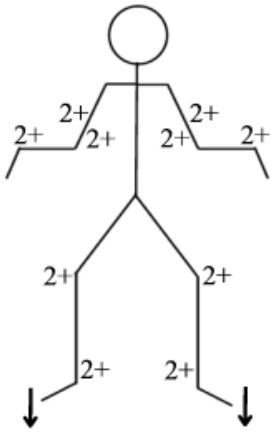
Chart Diagrams

Reflexes

Reflexes can be documented using a stick figure, indicating the strength of the deep tendon reflexes and whether the toes are up-going or down-going:

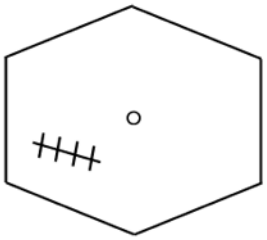
Documenting Reflexes

+ or 1+ decreased or diminished
++ or 2+ average
+++ or 3+ increased
++++ or 4+ markedly hyperactive



Anatomy

Drawings can be helpful to show any scars, lesions, fractures, or location of suture insertions on the body. This example shows an abdomen with an old appendectomy scar:



Values

Standard lab values are often written using fishbone diagrams. If using these diagrams to document lab values in charts, ensure that this convention is used in the institution in which you work.

Appendix 2

Appendix 2 - Sample Complete History and Physical Exam Write-Up

The following is a sample case write-up for a patient who presented to the Emergency Room with chest pain, has had some initial treatment and work-up, and is now being admitted to hospital.

Date: May 11, 2011
Patient Identification: Tom Jones
Sex: Male
Date of Birth: October 2, 1945
Residence: Mowat Avenue, Kingston, in his own home
Marital Status: Married
Occupation: Retired postal worker

Mr. Jones is a reliable witness and shows good insight into his medical problems.
Chief Complaint: "Squeezing" pain in chest
HPI: Mr. Jones experienced a severe squeezing discomfort in his chest. It started suddenly one hour before arrival to hospital while he was gardening, doing some heavy lifting and raking. The pain is retrosternal, and radiates to his jaw. The initial severity of 9/10 lasted for 15 minutes before he decided to have a neighbour drive him to hospital. It subsided slightly with rest on route to the ER, and since being treated it has decreased to 4/10. He also experienced nausea when his pain was severe. He denies any light-headedness, palpitations or pre-syncope with the pain, but was briefly diaphoretic. He did not take medications to alleviate the symptoms. Since arriving in hospital, he has received IV nitroglycerin and oxygen by nasal prongs, which helped relieve his symptoms.

- Diagnosed with angina in 2009
- Experienced chest discomfort before, but never this severe (normally 2-4/10)
- Prior episodes occurred less than monthly, and have always resolved within 10 minutes with rest and nitroglycerin (NTG) spray
- Over past 2 weeks, chest pain has increased in frequency and severity with almost daily episodes brought on by minor exertion lasting up to 15 minutes, resolving with rest and NTG spray

- Has not been awakened from sleep with chest pain, and has no new shortness of breath
- Continues to be moderately active with normal activities of daily living

- Mild exertional dyspnea when walking quickly
- No palpitations, syncope, orthopnea, PND, peripheral edema or claudication

- No previous other cardiac problems
- Has been treated for hypertension since 1980, type 2 diabetes mellitus since 1998, and COPD since 2007
- Does not measure his blood sugars regularly and does not know his latest HbA1C result. Recent morning finger prick blood glucose was 7.
- Unsure of cholesterol level

- 20-pack year history of smoking and stopped 5 years ago
- Slightly overweight his entire adult life, and is sedentary
- Family history of cardiac disease is positive only for a paternal uncle with early cardiac disease.
- Unsure of any FHx of elevated cholesterol or lipids.

- Cardiac medications are: nitroglycerin spray prn for angina, atenolol (Tenormin) 50 mg once daily, amlodipine (Norvasc) 5 mg once daily, ASA 81 mg once daily.

<u>Past Medical History</u>

Surgery	Appendectomy 1949
	Cataract extraction 1997
Medical	Hypertension onset 1980
	Type 2 diabetes mellitus onset 1998
	COPD requiring treatment since 2007
	Pneumonia (outpatient treatment) 2007

<u>Family History</u>

- Father died age 70 with lung cancer, mother age 85 with dementia and pneumonia
- Paternal uncle had early cardiac disease
- 2 sisters aged 75 and 70 years are in good health
- Three children are well
- One grandchild has type 1 diabetes

<u>Social History</u>

- Retired from postal services age 65 years
- Lives in his own home with his wife who has moderate COPD but is relatively well and active

- Golfs twice/week using motorized cart
- Sees his children and grandchildren every few months

Habits
- Alcohol: 3-4 glasses of beer per week
- Tobacco: Smoked 1/2 pack/day for 40 years (20 pack year history). Quit 5 years ago with the use of nicotine patches when wife's COPD worsened

Allergies
NKDA. Seasonal allergies in the fall.

Medications
- ASA 81 mg once daily
- Atenolol 50 mg q am
- Amlodipine 5 mg q am
- Metformin 500 mg bid
- Flovent inhaler 50 mcg 2 puffs bid
- Salbutamol inhaler 2 puffs qid prn
- GTN spray prn

Review of Systems
General: no weight loss, fever, malaise or rashes

Eyes: distant vision normal, needs reading glasses, no diplopia, pain, or discharge

Ears: mild hearing loss, no past infections, no discharge

Nose and throat: has seasonal nasal allergy in fall, no nosebleeds, no throat or tongue pain, wears dentures

Respiratory: chronic a.m. cough productive of small amount of white or yellow sputum, no hemoptysis. Wheezes when he has a cold, dyspnea when walking quickly or climbing 2 flights

Cardiovascular: see HPI

GI: no abdominal pain, nausea, vomiting, dysphagia, or heartburn. One formed brown stool most mornings. No melena or red blood in the stool.

GU: no flank pain, dysuria, hematuria. Has nocturia x 1-2 but no daytime frequency, no testicular pain. No problems with sexual function.

MSK: no joint pain, stiffness, or swelling

CNS: rare headaches, no seizures, weakness, or changes in sensation. No dizziness or disturbances of balance or coordination.

Physical Examination

General: Mildly overweight man with normal colour, in no obvious pain or distress, lying down but alert in his hospital bed. He looks his stated age. He is receiving oxygen by nasal prongs, and intravenous therapy.

Vital signs: BP 130/70 both arms, supine. HR 78 beats/min, regular rhythm, strong upstroke. RR 18 breaths/min. O_2 sat 96% on right arm. Height 160 cm, weight 85 kg.

Eyes: Vision normal with glasses for reading. Pupils equal and reactive to light (direct and consensual). Accommodation and ocular movements normal. Visual fields intact. Fundoscopy normal.

Ears: Difficulty hearing whisper. Canals clear and drums normal.

Nose and Throat: No lesions, soft palate elevates symmetrically, tongue movements normal.

Neck: Thyroid not enlarged. No masses. Carotids normal pulse, no bruits.

Lymph nodes: No abnormal nodes palpable in neck, axilla or inguinal region.

Respiratory: Symmetrical expansion of chest. Normal resonance and fremitus. Decreased air entry lower lung fields bilaterally with faint bibasilar crackles.

Cardiovascular: JVP 4 cm. No visible or palpable precordial heaves, no palpable thrills, apex PMI in 5^{th} LICS at MCL. Normal first and second sound intensity, second sound splits on inspiration, S4 gallop at apex. He has a grade 2/6 SEM at the LSB. Leg veins normal, no edema. Femoral, popliteal, posterior tibial and dorsalis pedis pulses all normally palpable and equal bilaterally. No carotid, renal or femoral bruits.

Abdomen: Mildly protuberant, RLQ scar. Normal bowel sounds, no bruits. No tenderness on palpation, no palpable masses, liver edge not palpable, no palpable spleen or kidneys.

GU: Penis and scrotum normal, no hernias.

MSK: Joints normal, no redness or swelling. Gait not assessed.

CNS: Alert, oriented, normal speech. Cranial nerves II-XII intact. Sensory – pinprick, touch, vibration, and position normal. Motor – no wasting or involuntary motion, strength normal. Reflexes – biceps, triceps, supinator, knee, ankle normal and down-going toes on plantar reflex. Cerebellar – finger-nose and heel-shin tests normal.

Labs and Data

ECG upon arrival in ER: sinus tachycardia with ST depression in leads II, III and aVF

Blood work after arrival in ER:
CBC, electrolytes normal
Creatinine 109 mildly elevated (normal up to 105)
Glucose random 10
Initial troponin and CKMB in normal range

Summary of History and Physical

Mr. Jones is a 67-year-old male with diagnosed hypertension, angina and type 2 diabetes who presented to the ER with 9/10 retrosternal squeezing chest pain radiating to his jaw. He has experienced crescendo angina for the past 2 weeks. He is currently hemodynamically stable, and has a borderline-high JVP, no peripheral edema, normal S1 and S2 with an S4 gallop, and bilateral basal crackles in his lungs. His initial ECG indicates inferior ischemia/infarction.

Differential Diagnosis

1. Myocardial ischemia: Unstable angina
2. Myocardial infarction: STEMI (electrically silent) or NSTEMI
3. Aortic stenosis (common)
4. Aortic dissection (lethal, rule out)
5. Pulmonary embolus (lethal if massive, rule out)

Acute Plan

Acute Coronary Syndrome:

- Serial ECGs and serum biomarkers to assess progression of myocardial ischemia. As he has a low risk of PE, do D-dimer test to rule out a PE.
- Echocardiogram to assess status of valves, detect any ventricular wall movement abnormalities.
- CXR to look for signs of congestive heart failure (size of heart, pulmonary edema), and to assess width of mediastinum (to rule out aortic dissection).
- Continue therapy started in ER (IV nitroglycerin, subcutaneous heparin, O_2 by nasal prong). Consider ACE-inhibitor and statin.
- Consult cardiology regarding admission and assessment for coronary angiography and possible PCI

Diabetes Mellitus

- Monitor blood sugar and acid/base balance because of possible loss of control due to stresses of acute illness.

COPD

- Monitor oxygenation and correct any hypoxia
- Continue inhalers

Hypertension

- Monitor for changes in BP that may require readjustment of medications.

Long-term Plan

- Risk factor modification: educate and support patient regarding diet and exercise, blood glucose control and monitoring of type 2 diabetes and complications.
- Ensure hypertension is well-controlled, and begin statin treatment to decrease cholesterol.
- Refer to cardiac rehabilitation program

Pathophysiology of the Chief Complaint

Angina refers to the uncomfortable sensation or pain in the chest and neighbouring structures that arises from an imbalance in myocardial oxygen supply and demand. In coronary artery disease (CAD), atherosclerotic plaques narrow the lumen of the coronary arteries and cause abnormal vascular tone because of endothelial cell dysfunction. The net result is limited myocardial blood flow, leading to a decreased supply of oxygen and subsequent angina.

In acute coronary syndromes (ACS), the lipid-rich atherosclerotic plaques rupture. This exposes highly-thrombotic material contained within the plaques to the blood stream, and platelets become activated. The activated platelets form a thrombus, which becomes super-imposed on the plaque.

In an ST-elevated myocardial infarction (STEMI), the thrombus completely occludes the coronary artery. In a non-ST-elevated myocardial infarction (NSTEMI) and unstable angina, the thrombus only partially occludes the artery. In STEMIs and NSTEMIs, myocardial cells undergo necrosis, as indicated by the presence of serum biomarkers (troponin and CKMB). Unstable angina is similar to an NSTEMI, but there is no rise in serum biomarkers.

STEMIs require immediate reperfusion either through fibrinolytics or, if available, stenting by percutaneous cardiac intervention (PCI) or coronary artery bypass graft (CABG). NSTEMIs and unstable angina are not treated with lytics or PCI immediately, and are, rather, treated medically. Coronary angiography and PCI are performed within 48 hours for patients at high and intermediate risk of future infarcts.

Reference: Lilly, Leonard (ed). Pathophysiology of Heart Disease. Lippincott Williams and Wilkins: 2011.

SOAP Notes Guidelines

Subjective	Information relevant to the current visit obtained by talking to the patient Include: ○ Patient identification information ○ Chief complaint ○ History of present illness, using OLDCAAARTSP when appropriate ○ Relevant review of systems ○ Relevant past history, family history, risk factors and social history ○ Medications for that health problem Include pertinent positives and negatives
Objective	Findings from physical examination of patient Record: ○ General description ○ Vital signs ○ Measurements of weight and height ○ Relevant focused physical exam Include pertinent positives and negatives Include labs and data if available
Assessment	From the subjective and objective data: ○ Formulate a differential diagnosis ○ Identify the most likely diagnosis ○ Identify lethal diagnoses to rule out
Plan	Formulate a plan, including: ○ Diagnostics ○ Therapeutics ○ Consultations ○ Patient education ○ Follow-up instructions

Sample SOAP Note

Mr. Jones, the same patient from the previous case write-up, has been admitted to hospital. This SOAP note details a follow-up on his angina.

Date: May 11, 2011
Patient Identification: Tom Jones
DOB: October 2, 1945

S:
Chief complaint: "squeezing pain" in chest

- Upon arrival at ER had severe, 9/10 retrosternal squeezing chest pain that radiated to jaw
- Pain now 2/10 after treatment with IV NTG and O_2 by nasal prongs
- Nausea has resolved, no shortness of breath, feels fatigued.

- Diagnosed with angina in 2009
- Previous episodes chest discomfort grade 2-4/10, less than monthly, always resolved with rest and NTG spray
- Angina symptoms have increased in frequency and severity over the past 2 weeks

- Exertional dyspnea when walking quickly. No palpitation, syncope, orthopnea, PND, edema or claudication.

- Hypertension since 1980, type 2 diabetes mellitus since 1998, and COPD since 2007
- Family history of cardiac disease positive only for one paternal uncle
- Unsure of cholesterol levels

- Tobacco: 20 pack year history, quit 5 years ago
- Alcohol: 3-4 beers per week

Medications:

- ASA 81 mg once daily
- Atenolol 50 mg q am
- Amlodipine 5 mg q am
- Metformin 500 mg bid
- Flovent inhaler 50 mcg 2 puffs bid
- Salbutamol inhaler 2 puffs qid prn
- GTN spray prn

On admission:

- IV nitroglycerin
- Subcutaneous heparin
- O_2 by nasal prong

O:
General: Mildly overweight man with normal colour, in no obvious pain or distress, lying down but alert in his hospital bed. Receiving oxygen by nasal prongs and intravenous therapy.

Vital signs: BP 130/70 both arms, supine. HR 78 beats/min, regular rhythm, strong upstroke. RR 18 breaths/min. O_2 sat 96%. Height 160 cm, weight 85 kg.

Respiratory: Symmetric expansion of chest. Normal resonance and fremitus. Bibasilar crackles.

Cardiovascular: JVP 4 cm. No visible or palpable precordial heaves, no palpable thrills, apex tapping in 5^{th} LICS at MCL. Normal first and second sound intensity, second sound splits on inspiration, S4 gallop at apex, 2/6 SEM at LSB. Leg veins normal, no edema. Femoral, popliteal, posterior tibial, and dorsalis pedis pulses all normally palpable and equal bilaterally. No carotid, renal or femoral bruits.

Labs and Data
ECG: normal sinus rhythm with ST depression in leads II, III and aVF. Heart rate has decreased since previous ECG.

Blood work after admission to ward:
CBC, electrolytes normal
Creatinine 109 mildly elevated (normal up to 105)
Glucose random 10
Troponin and CKMB in normal range

A:
Differential Diagnosis:
1. Unstable angina (most likely diagnosis)
2. NSTEMI
3. STEMI

P:
- Monitor ischemia with serial ECGs and serial troponin and CK q4h
- CXR to assess evidence of congestive heart failure, and echocardiogram to assess ventricular function.
- Consult cardiology re: cardiac catheterization and revascularization.

- Risk factor modification: educate and support patient regarding diet and exercise. Ensure hypertension is well controlled, and begin statin treatment to decrease cholesterol.

- Meds: Optimize anti-anginal medication. Consider ACE-inhibitor, clopidogrel, and statin.