The 3-Minute Emergency Medicine Medical Student Presentation: A Variation on a Theme
Chip Davenport, BA, Benjamin Honigman, MD, Jeff Druck, MD

Abstract
Oral presentations are a critical element in the communication of medical knowledge between students and faculty, but in most locations, the amount of time spent on teaching the oral presentation is minimal. Furthermore, the standard oral presentation does not work well within the emergency medicine (EM) setting, due to time constraints and the different principles that make EM a unique specialty. This article provides a suggested approach on how to educate students on optimal oral presentations in EM, as well as providing a link to an online guide instructing medical students how to give oral presentations.

Keywords: education, presentation, oral, medical student

As Dr. William Donnelly stated in his article “The Language of Medical Case Histories,” “[oral presentations] are the way in which physicians at every level of training communicate to each other their understanding of particular patients and their medical problems, what has been done about the problems, and what is being done about them.” The expectations for these presentations vary depending on the expertise of the medical student and on the clinical service where the student is learning. As the field of emergency medicine (EM) evolves, there is a growing interaction between medical students and other members of the EM team, including residents and faculty. Medical students from all 4 years of training now come into contact with the emergency department (ED). However, their oral presentation training is primarily provided by other services. Because of the need in EM to provide a rapid assessment in addition to telling the patient’s “story” effectively, a specific style of presentation is required for EM.

In addition, we believe that the majority of the student and resident educational interactions with attending physicians in EM occur during oral presentations, when the student provides his or her analysis of the patient’s story to the other medical team members. Other interactions, such as direct patient contact and chart review, occupy a large amount of the student’s interaction time with patients and are often not observed by superiors. Thus, the majority of the resident and attending’s impression of a student, and ultimately the student’s evaluation, is directly linked to how well the student presents. As a fourth-year medical student wrote from the University of California, San Francisco, “...no matter how much compassion and warmth I may have with patients, my superiors grade me more on how polished I am, how well crafted my presentation is.” In this article, we will summarize traditional presentation methods, elucidate how the EM presentation varies from the standard, and offer our guidelines for a successful presentation. Although these suggestions have not been studied, we have had success teaching this method to our medical students. Our goal is to have a student be able to present all pertinent information under 4 minutes, with the ultimate goal of the “3-minute presentation.”

HISTORY OF THE ORAL PRESENTATION
The evolution of the oral presentation is not well described in the medical literature. The earliest mention of the patient narrative was in 1846 by Erasmus Fenner (dean of the New Orleans Medical School) who required students to read their patient write-ups to professors on rounds. The patient narrative began prior to the creation of the written medical record; however, we theorize that the format of the oral presentation most likely tracked the evolution of the written medical record. Therefore, the “standard” oral presentation follows the same format as the written medical record, but the oral presentation focuses on information related to the chief complaint (CC).

As of 2003, the oral presentation has taken another step in evolution, with the “SNAPPS” format, developed...
at Case Western Reserve University School of Medicine. SNAPPS focuses on students keeping their patient summaries brief, narrowing the differential to two or three etiologies, analyzing the information to determine the most likely cause of the CC, probing the attending for knowledge by asking questions, planning the patient’s management, and finally, selecting an issue related to the case for self-directed learning. The creators of SNAPPS recognized the limited educational experience that many students undergo during oral presentations. Therefore, SNAPPS was developed to “engage the learner and create a collaborative learning conversation in the context of patient care.”

Even though the SNAPPS format was designed for outpatient oral presentations, the brevity of the patient’s history and the limited differential diagnosis are aspects that can be applied to EM.

More recently, a study from Boston University School of Medicine showed that a multifaceted intervention introducing specific guidelines for oral presentations did improve medical students’ narrative skills. The guidelines were compiled with input from more than 60 faculty members of the Department of Medicine. Prior to the guideline intervention, 33 of 111 (30%) students received a rating of “excellent” during their medicine clerkship. With the integration of the guidelines the following year, 42 of 96 (44%) students received an “excellent.” The response from the medical students in the study showed appreciation of specific guidelines to explain why data should be included and in which order it should be placed in the oral presentation.

**WHY DO STUDENTS STRUGGLE WITH THE ORAL PRESENTATION?**

Didactic and on-site training are the two general ways medical students receive education on how to give oral presentations. Didactic training occurs primarily in the first 2 years of medical school, while on-site training occurs during clerkships. Schools may include sessions during their Principles of Clinical Medicine courses in Years 1 and 2 or in the Transition to Clerkship at the end of Year 2. Although the Liaison Committee on Medical Education (the accrediting body for physician programs) states that in a medical school there “must be specific instruction in communication skills as they relate to physician responsibilities, including communication with patients, families, colleagues, and other health professionals,” there is no requirement for a specific amount of time to be spent teaching oral presentation skills. Another reason students may have difficulty acquiring proper oral presentation skills may be due to “no universally accepted or widely used tool to help learners improve oral presentation skills.”

On-site training also has its challenges. As a teaching technique, many students are often asked to duplicate presentations of more senior members of the team. However, an article summarizing student interviews about this issue commented that “effective presenters alter the structure and organization of their presentations, but could not articulate how, when, or why these alterations were chosen . . . as a result, students were not easily able to understand or mimic those successful presentations that they witness by more experienced team members . . . in fact, experts may not be the ideal models for novices.” This article provides a framework for students and educators to refine oral presentations, whether in the didactic or clinical environment.

**IMPORTANT CHARACTERISTICS IN EM**

In addition to the rigors of learning “general” oral presentation skills, the unique characteristics in EM compound the difficulty of learning presentation skills. Many EM traits often lead students, who are proficient with oral presentations on other services, to have difficulty with oral presentations in EM. Rosen’s landmark paper, “The Biology of Emergency Medicine,” describes the fundamental differences of EM from other services. These differences provide a unique framework to the oral presentation: 1) assume that every patient has a life- or limb-threatening condition, 2) juggle multiple patients simultaneously, 3) prioritize patients according to level of concern, and 4) address patient loyalty and follow-up issues and consequences of incomplete medical records.

These principles mandate presentations to be concise and to the point without sacrificing essential information.

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**Table 1**

> How the Axioms of Emergency Medicine (EM) Care Translate into an Abbreviated Presentation, with Specific Teaching Points to be Elaborated on by the Instructor

<table>
<thead>
<tr>
<th>Important EM Traits</th>
<th>Characteristics of Oral Medical Record due to the Important EM Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assume every patient has a life-/limb-threatening condition</td>
<td>Be concise. The listener expects the presenter to use clinical judgment to edit patient information, with an emphasis on characteristics that apply to the inclusion or exclusion of life threats</td>
</tr>
<tr>
<td>Juggle multiple patients simultaneously</td>
<td>Present in less than 5 minutes. State CC first and focus only on CC unless other concerning problems arise</td>
</tr>
<tr>
<td>Prioritize patients</td>
<td>Only talk about the most pressing issues; as there are multiple patients with pressing issues, focusing a presentation allows for rapid assessment of the critical nature of their complaint and subsequent triage among other patients</td>
</tr>
<tr>
<td>Address patient loyalty issues and consequences of incomplete medical records</td>
<td>Obtain a complete history. As patients are not tied to a specific practitioner, “hospital hopping” is more common, meaning a complete picture cannot rely on medical records. Therefore, it is critical to get a detailed interview</td>
</tr>
</tbody>
</table>

CC = chief complaint.
for the listener to easily formulate a plan of diagnosis and therapy. The fourth principle, which initially focused on loyalty to specific physicians and frequency of primary care visits, is now even more applicable as there are rarely ties to specific hospitals or health care systems, resulting in fractured and incomplete medical records (see Table 1). By applying these overarching principles of EM to the oral presentation, the student maintains focus on the key components of EM practice.

**EM ORAL PRESENTATIONS**


One might notice the minimization of past medical history (PMHx), past surgical history (PSHX), social history (SocHx), and family history (FmHx) in the above list. Their diminished emphasis is necessary for a speedy and efficient oral presentation in EM. By decreasing the number of sections, the student is compelled to include vital information contained in these areas in other parts of the presentation, or not to mention them, as they may not be pertinent to the reason for the patient’s visit to the ED. Of note, pertinent PMHx should be included in the first sentence (the one liner) of the HPI.

The ability to determine pertinent information is difficult for student physicians and is directly limited by the student’s level of medical knowledge. We therefore suggest that students err on the side of safety and include questionable pertinent information. However, we do encourage educators to specifically identify incorrectly “labeled” data and explicitly explain why the data were “mislabeled.”

**WHAT IS PERTINENT INFORMATION?**

One way for a student to determine “pertinence” is to have a short differential diagnosis list for the specific CC. Then, by using principles of pathophysiology (mechanism, course of the disease, complications), which a second- or third-year student should know, the student can ask clarifying questions about each etiology on the differential list. For example, if the CC is abdominal pain and the potential differential includes gastric ulcer, cholecystitis, and pancreatitis, the student should ask clarifying questions such as “is the pain worse at night?,” “worse before or after meals?,” “worse during fatty meals?,” “any back pain?,” or “any alcohol use?” The answers to the above questions are pertinent and should therefore be placed in the HPI. The student will have the ability to obtain relevant information during the extensive interview process, and this information can then be narrowed to provide a concise story to the listeners. An absence of these key pieces of information should provide a clue to the educator that these possibilities were not on the medical student’s differential and will then provide an opportunity to discuss alternative differential diagnoses that the medical student may have missed.

As students obtain more clinical and presentational experience, they will become more proficient at including only pertinent data. Early in their medical training, students have limited ability in grouping patient information as pertinent and nonpertinent.9 Lingard and Haber9 suggest that “if you give [students] section headings, they’ll always put something under them, even if all the information we need is really contained in the first two sections of the presentation.” If determining information relevance is related to clinical knowledge, then by definition, students will have limited abilities in this area. Therefore, it is vital that the educator not use vague comments such as “tell me only the stuff I need to know” or “give me information that is only relevant to the chief complaint” for feedback to students. Instead, we recommend giving students specific explanations of why certain information in the presentation should be left out to change the learner’s misconceptions about what is really pertinent information. On the other hand, if critical information is not included, the educator should elucidate the knowledge deficit that results in the absence of the critical information from the presentation. Keeping these guidelines in mind, we will discuss each individual section of the oral presentation and how that applies to the EM setting.

**HPI**

The HPI in EM tends to include more information from other sections like review of systems (ROS), FmHx, and SocHx due to the need for speed and efficiency in EM presentations. All of the pertinent information from the ROS, FmHx, and SocHx should be included in the HPI to save time. This provides students an abbreviated template as a guide to limit details of the patient’s medical issues.

**PMHX/PSHX/FMHX/SOCHX**

As previously mentioned, any pertinent information to the CC should be mentioned in the HPI. If done correctly, there should be no formal mention of titles like PMHx, PSHx, SocHx, or FmHx in the oral presentation. An example would be: “This patient is a 40-year-old man with a past history of coronary artery disease, hyperlipidemia, and hypertension who comes to the ED complaining of chest pain.” This is also the initial moment for the educator to realize the knowledge base of the medical student. With an inappropriate or incomplete initial statement, the educator will be able to provide teaching points on presentation skills.

**ROS**

As the student gains more clinical knowledge, the presentation of the ROS should become smaller and smaller until ultimately there is little to no mention of ROS. At first, beginning students should mention all patient
complaints. By obtaining as much information in the ROS during the interview as possible, the student will be assured that he or she has not missed anything. Information the student believes is pertinent to the CC is mentioned in the HPI. Information the student believes is not pertinent or is of uncertain relevance to the CC should be mentioned in the ROS.

There are situations where some nonpertinent complaints are serious enough to be relabeled as a second CC. For example, the patient’s CC is a leg injury, but further questioning also reveals the patient to have dysuria, back pain, fever, and chills, which is concerning for pyelonephritis. If the patient is allowed only one CC, then dysuria, back pain, fever, and chills are not pertinent data and by definition should be stated in the ROS. However, at times, complaints in the ROS get forgotten or even ignored. Therefore, dysuria should be moved from ROS and added to the HPI as a second CC: “The patient is a 45-year-old female who came to the ED complaining of a traumatic leg injury and dysuria.” The student should then divide the patient’s history into two HPIs: one telling the pertinent information of the leg injury, and the other telling the pertinent information of the dysuria. Without this “refocusing” of a second CC, the educator is at high risk for missing a key element that the medical student may not consider important due to their lack of knowledge base. For example, the dual CCs of arthritis and urethritis will trigger in the educator the concern for Reiter’s syndrome, but this association may be lost on the novice learner.

**Medications/Allergies**

Medical students should be reminded to mention all medications and allergies. Medications have numerous side effects, and even though the medication might not be causing the CC, the concern for future drug reactions with therapeutic medications mandates the knowledge by the educator of all the patient medications. However, students should only mention the drug; the dosing schedule should only be discussed if applicable to the case or in the discussion that follows the presentation.

**Physical Exam**

The physical exam portion of the EM presentation should be similar to the “review of systems” section, focused on the pertinent positives and negatives, with the remainder left out, under the assumption that the other components are not applicable to this patient’s case. The same caveat for the ROS also applies. With less medical knowledge, the basic learner may not know what physical exam findings are important based on a specific patient’s complaints. As such, it is incumbent on the educator to ask about unmentioned pertinent positives and negatives.

**Summary Statement**

The summary statement should be one to two sentences that encapsulate the entire clinical picture of the patient’s visit to the ED. The first sentence should be approximately the same as the first sentence in the HPI. “The patient is a [age]-year-old [gender] with a history of [pertinent PMHx] who presents with [CC].” The second sentence should include only the most important complaints, physical exam findings, studies, or labs values. We believe that beginning students should not give a diagnosis in the summary statement, which differentiates the summary statement from an impression statement. This is not an area where the student should present the final diagnosis, as it is unlikely for a definitive diagnosis to be possible at this stage in the patient’s workup. Instead, this is the summation of the history and physical elements that will assist in formulating the differential diagnosis.

**Problem Assessment and Plan**

The problem assessment is the first section in the oral presentation where the medical student should give his or her opinion. The patient’s problems should be mentioned from the most life-threatening to least life-threatening. There is no “right” order, since everyone

### Table 2

<table>
<thead>
<tr>
<th>Pitfalls in Oral Presentations</th>
<th>Example</th>
<th>Method on How to Change Pitfall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to include relevant PMHx</td>
<td>An elder patient has an acute episode chest pain but student does not mention patient had a CABG 2 years prior</td>
<td>Tell the student that any conditions that can cause the CC should be labeled pertinent and included in the oral presentation</td>
</tr>
<tr>
<td>Including nonrelevant ROS in the HPI</td>
<td>Patient has chest pain but the student also mentions in the HPI that the patient has also had a knee replacement in the distant past</td>
<td>Ask the student why this piece of information was included, and then specifically explain why the knee replacement is not relevant to the chest pain</td>
</tr>
<tr>
<td>Including PE findings in the HPI or ROS</td>
<td>The patient complains of a swollen knee after a skiing accident, painful to walk but the knee had full range of motion and was not tender</td>
<td>Remind the student that anything they see or do to the patient should only be mentioned in the physical exam section</td>
</tr>
<tr>
<td>Poor body language</td>
<td>The student has distracting gestures during presentation</td>
<td>Explain why body movements are distracting and encourage verbal descriptions</td>
</tr>
</tbody>
</table>

CABG = coronary artery bypass graft; CC = chief complaint; HPI = history of presenting illness; PE = physical exam; PMHx = past medical history; ROS = review of systems.
will have different opinions. However, this order is critical for the educator to elucidate; it allows insight into the student’s thought processes as to possible life threats. The first mentioned problem does not have to be the patient’s CC. For example, a patient complains of abdominal pain, but since arriving to the ED has started vomiting large quantities of blood. The first problem mentioned should be hematemesis, not abdominal pain, even though it was the abdominal pain that brought the patient to the ED. Next, the speaker should quickly list life-threatening etiologies of the problem, any labs or studies needed, and recommendations for current treatment.

Additional Training Techniques

It is expected that medical students will not achieve excellence with initial presentations. It is also common for students to substitute additional errors in presentations as initial errors are corrected. We have discussed the most common errors that we have found and correction methods in Table 2. If time permits, students should be allowed to present each case two times. The first time is the way the student believes the case should be presented. After specific feedback from the listener, the student’s second presentation of the same case will include corrections to reinforce proper technique.

SUMMARY

With medical students spending increasing time in the ED, there is a greater need for student education on how to deliver patient narratives since “high-quality oral presentations have the potential to promote coordinated patient care, enhance the efficiency of rounds, and encourage teaching and learning.” The four axioms of EM require a rapid and efficient student presentation. However, a direct result of students’ limited clinical knowledge is the inability to determine nonrelevant from pertinent details and can lead students to include extraneous facts causing lengthy presentations. As EM educators, we believe that it is important for all students who rotate through the ED to be able to tell the patients story in a “3-minute” format.

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References


Supplementary Material

The following supplementary material is available for this article:

- Data Supplement S1. Oral presentations in emergency medicine (PDF file)

This material is available as part of the online article from: http://www.blackwell-synergy.com/doi/suppl/10.1111/j.1553-2712.2008.00145.x/suppl_file/acem_145_sm_DataSupplementS1.pdf

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(This link will take you to the supplementary material).
Oral Presentations in
Emergency Medicine

This guide is designed to help medical students establish and refine their presentation skills, with a focus on the emergency medicine presentation. Please note that there are two key elements to giving presentations: good feedback and flexibility of presenting style. You should make sure to use this guide in concert with feedback you get from your attending and should realize each attending will be slightly different. With the ability to modify your presentation based on feedback, we are certain you will develop the skills needed to communicate the critical information of a medical presentation both concisely and completely.

Objectives of the EM Oral Presentation
1. Tell the patient’s story < 3 min in order to start diagnostic tests and treatment quickly.
2. Only state pertinent information.
3. Presentation must be fluid, flowing from one section to another with no hesitation and done with confidence.

The Oral Presentation Outline
1. Chief Complaint (CC)
2. History of Presenting Illness (HPI)
   a. One liner
   b. ▲
   c. ▲
   d. ▲
   e. ▲
   f. PERTINENT Past Medical History (PMH)/ Past Surgical History (PSH)/ Social History (SoChx)/ Family History (FmHx)
3. Review of Systems (ROS)
4. All medications
5. All allergies
6. Physical Exam (PE)
7. Summary Statement
8. Problem Assessment
9. Plan
**Figure A**

DISEASE
(ex. endocarditis)

pathophysiology of the DISEASE which causes the chief complaint and a "minor" complaint

- chief complaint (ex. chest pain)
- "minor" complaint (ex. fingertip pain)
- "minor" compliant (ex. fever)

**Figure B**

**Chronological Order of the Chief Complaint**

- Patient before complain
- First episode of Chief Complaint
- Illness progression
- Previous hospitalizations or ED visits related to CC.
- What changed to make the patient come in to the ED on this particular day
- Patient at the time of the interview.

**Figure C**

**Order of HPI in the Oral Presentation**

- The One Liner
- 1st
- 2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
**Intro**

The overall feel for oral presentations in the emergency department is to give concise sentences in a bullet-point like fashion. Taking this mentality will hopefully rid you of extra words and phrases. Most importantly is using a format that makes sense, which will increase fluidity and confidence of oral presentations.

**What does ‘pertinent’ really mean?**

Before discussing the individual sections of the oral presentation, the vague term of ‘pertinent’ must be clearly defined. Often students are interrupted during their oral presentation by the listener who says “only give me the pertinent information” or “tell me what I need to know to treat this patient.” These interruptions are likely due to the listener’s frustration with the medical student’s regurgitation of too many facts. Therefore, it is critical for medical students to become more proficient dividing all the facts into 2 categories: pertinent and non-pertinent information. The skill of labeling information as pertinent or non-pertinent requires a significant level of clinical knowledge; therefore, students will naturally have limited abilities. When students receive non-helpful phrases such as “only give me info that is related to the chief complaint,” you should respectively ask the educator for specific explanations as to why a given piece of data is or is not pertinent.

Of note, students should generally not duplicate presentations of senior residents or attending, because these instructors have mastered the oral presentation and might not use the same format as required by medical students.

**Table 1.** Illustrates one way how ‘pertinent’ patient information is determined.

<table>
<thead>
<tr>
<th>Complaint</th>
<th>Possible etiologies of complaint</th>
<th>Pertinent questions</th>
<th>Example phrases to be stated in the HPI*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chest Pain</td>
<td>Acute Coronary Syndrome</td>
<td>Have you ever had this type of chest pain before?</td>
<td>Patient had similar chest pain a year ago.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Does the chest pain increase with walk?</td>
<td>Chest pain increases with ambulation but decreases with rest</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is the chest pain sharp, dull, or burning in nature?</td>
<td>Chest pain is dull and substernal with radiation down left arm.</td>
</tr>
<tr>
<td></td>
<td>Pulmonary Embolism</td>
<td>Do you feel short of breath?</td>
<td>Patient does not have shortness of breath</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Does the chest pain change when you breathe?</td>
<td>Chest pain is non-pleuritic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Have you ever had blood clots before?</td>
<td>Patient has never had a deep venous thrombosis.</td>
</tr>
</tbody>
</table>

*The responses to the pertinent question column are pertinent by association and thus should be stated in the HPI section, not the ROS section, of the oral presentation.*
Another way to determine pertinent information is as follows (depicted in Figure A): if you believe a symptom/complaint could be caused/explained by the same pathophysiology that could be causing the CC, then by definition that information is pertinent. Let's say the patient has chest pain for a chief complaint. During the review of system questioning, the patient also complains of fingertip pain. Is the fingertip pain important enough to mention in the presentation? If you believe the fingertip pain is related to the chief complaint (therefore pertinent information) then it is stated in the HPI. On the other hand, if you believe the fingertip pain is NOT related to the chief complaint (therefore non pertinent information) then it is mentioned in the ROS. Since you have limited clinical knowledge (for now), all complaints should be mentioned because experienced clinicians might be able to connect the pieces together that students can not do yet.

Let's say the previously mentioned finger pain resulted during a basketball game. Since the mechanism causing the fingertip pain (trauma during a basketball game) could not also cause the patient's chest pain, the fingertip pain is NOT pertinent to the chief complaint. Therefore, fingertip pain should be mentioned in the ROS. However, if the medical student believes there is a way the finger trauma could cause the chief complaint of chest pain, then the fingertip pain is pertinent information and should be mentioned in the HPI. Of note, any information mentioned in the HPI should NOT be repeated in the ROS.

Now let's say the patient is febrile and an intravenous drug user. Now you believe the patient has endocarditis which is causing the chest and the fingertip pain. Since endocarditis can cause the chief complaint (see Figure C) of chest pain and cause fingertip pain (Osler's nodes), fingertip pain is pertinent information and should be mentioned in the HPI and not in the ROS. In other words, if you believe any minor complaints (which the patient usually mentions during ROS questioning) are being caused by the underlying process that could also cause the CC, then mention the minor (pertinent) complaints in the HPI. If the minor complaints are not caused by the underlying process that is causing the CC, then the minor (non-pertinent) complaints should be mentioned in the ROS. In summary, students should mention all patient complaints in the oral presentation. However, the difficulty is in what section should state the complaints (in the HPI or in the ROS).

**Chief Complaint**

Quickly stating the CC, prior to stating the one liner of the oral presentation, orientates the listener. If not mentioned, the listener becomes frustrated due to not having a reference point and thus stops paying attention. It is like going to lecture and not being told what the lecture is about. Example: “The chief complaint is abdominal pain.”

**History of Presenting Illness (HPI)**

The HPI can be one of the most difficult sections for students due to the great variability of styles. Therefore, Figure B and C were created to illustrate the difference between the patient's chronological story (Figure B) and the oral presentation story (Figure C). There are 3 general ways to present the HPI in the oral presentation:

1. In order of importance
2. Chronologically
3. No organization

For most attendings and complaints, method (1) is the best way to deliver the HPI, because there are 2 unwritten but important rules in oral presentations:

i) listeners have limited memory space
ii) listeners have short attention spans

Method (1) takes into account both of the above rules by having the most important information located at the beginning of the oral presentation as illustrated by Figure C.

The second most common and entirely acceptable method is method (2). The reason for method (2)'s less popularity is that (2) does not address the previously mentioned unwritten rules of oral presentations. When presenting in chronological order, by the time the speaker gets to describing the CC (を目) the listeners (with their “short attention spans” and “limited memory space”) will not remember as many important facts. On the other hand, in some situations method (2) will work better than method (1) but unfortunately only experience will help the medical student decide when to use method (2).

Method (3) is how many medical students give oral presentations. All the information is in the HPI but in no particular order. No attending wants to hear an unstructured oral presentation. Please avoid method (3) as much as possible!

Most importantly, by keeping Figure C in your head, when you get interrupted with questions you will not lose your place and you will know what section to mention next.

a. The One Liner

The point of the one liner is to state important patient specific stats to help clinicians stratify certain disease risks in the patient. The items always included in the one liner are: the patient’s age, sex, pertinent medical history relating to the CC, and the CC. Do NOT use diagnostic terms to describe the chief complaint. If the patient complains of chest pain, the CC = chest pain. The CC does not angina, which is a diagnosis. In my experience there are two pathologies that should be in the one liner almost all of the time — Diabetes Mellitus (DM) and Hypertension (HTN). Why? Because DM and HTN are very common in the general population and over time they can affect every organ. However, DM and HTN can be left out of the one liner in situations where the CC could not be caused by DM or HTN.

Example of the one liner:

The patient is a {age} year old {sex} with a history of {pertinent PMH} who presents with {CC}.

b. 😞

The blue sad face represents the patient at the time of the interview. The CC should be fully evaluated (location, radiation, what makes it better or worse…). Also this is where all the positive and negative pertinent information goes. In other words, mention any complaints YOU think are related to the CC. And do not list any complaints if YOU believe they are not related to the CC — they go under the ROS section. For example, 《The chest pain is dull, substernal with radiation only to the left arm. Chest pain gets worse with ambulation and improves with rest and sublingual nitrogen. The pain began this morning with three out of ten and now is eight out of ten.》

Examples of common Chief Complaints

PAIN 《The patient describes the pain as {#} out of ten and is located substernally/hip/big toe... The pain is sharp/dull/pressure/throbbing in nature which is exacerbated by exercises/inspiration... but is alleviated by exercise/rest/medications...》

DIARRHEA 《The patient complains of diarrhea for the past {#days} with approximately {# episodes/day}. The stool is {color} with {no} hematochezia/melena. The diarrhea is {not} associated with food. The patient does {not} complain of being ill prior to diarrhea.》

HEADACHE 《Pt. complains of {unilateral, bilateral} headache which began approximately...》
The headache is {throbbing, continuous} which is {not} associated with {any} facial symptoms such as tears, facial numbness… No vision changes during episodes. Patient can not recall any triggers. Headache is {not} preceded by auras or exacerbated by exercise.”

c. /

Why the patient came into the ED is an important piece of information that is often forgotten by medical students. Since the beginning of the patient’s illness, the patient has not sought medical assistance, but what happened to the patient to compel him/her to come to the ED. Patients sometimes volunteer the information right a way I started having chest pain this morning, which I never had before, so I decided to come in or I have had a headache off and on for the past five years but last night the headache was totally different and woke me up. It is apparent in the previous two examples what changed to make the patient seek medical advice new chest pain and different headache, respectively. But what about the following example: I have been having diarrhea for the past three days. It might be easy to stop here and say she came in because she’s having diarrhea for 3 days, is tired, and wants treatment. But if no one asked specifically why she came into the ED today and not yesterday or 2 days ago, the medical student would not find out that the patient noticed some blood in her stool this morning but has not had one since and therefore did not mention it until specifically asked. Then the patient gets really emotional and states that colon cancer runs in her family and her father died around her age due to undiagnosed colon cancer. Yes, you might get this info later on in the interview such as FmHx BUT you might not.
Example—“Patient came to the ED today because of _______ {pain became more severe, pt could not take it any longer, family persuaded pt to come in, medication stopped working}.”

d. ☀

Every listener wants to know how long the patient has had the chief complaint. The CC duration is important because the ranking of the differential diagnosis will change depending if the CC has been going on for 2 days versus 2 years. Keep it short and sweet.
Example—the {chief compliant} started approximately {time} ago.”

e. 🟢

The progression of the chief compliant is useful to relay how rapidly the CC is changing. Keep it big picture, do not give too much detail. The listener what’s to know if the CC is getting: worse, better, or unchanging. If the CC is getting worse tell how it’s getting worse (it the pain lasting longer, becoming more frequent, does not respond to meds now ). Like wise if the CC is getter better quickly explain how.
Example—“Since the first episode, the CC has been getting {worsening/improving/unchanged} due to {reason why CC is worse/improved}.”

f. ★

Briefly mention previous hospitalizations or emergency department visits IF the prior encounter is pertinent to the present CC. What should be included is: Prior CC related to today’s CC, date of hospitalization/ED visit, pertinent test results (CT, MRI, stress test ), pertinent lab results (cbc, lipase, LFTs, Alc ), and discharge treatment.
Example—“The patient was previously hospitalized for a similar chief complaint of chest pain 2 months ago. Patient had ST elevation and elevated troponins. Discharge diagnosis was Acute
Myocardial Infarction with medical management
—“The patient had a previous emergency department visit for a similar complaint of right upper quadrant abdominal pain 2 days ago. Right upper quadrant ultrasound then was normal. Patient sent home with the diagnosis of Abdominal Pain of Unknown Etiology with ibuprofen for pain.”

What about the PMH, PSH, SocHx, and FmHx
One might notice the lack of Past Medical History (PMH), Past Surgical History (PSH), Social History (SocHx), and Family History (FmHx) from the above list. Their removal is necessary for a speedy and efficient oral presentation in EM. If all sections were included, the speaker would be tempted to add non-relevant information to fill in the sections. By decreasing the number of sections, the speaker is compelled to discard non-relevant information. If done correctly, there should be no formal mention of titles like PMH, PSH, SocHx, and FmHx. The less medical knowledge one has the less ability to determine what data is pertinent and not. Therefore, students should error on the side of safety and include questionable pertinent information.

ROS
For beginners, all complaints get mentioned: it's just figuring out if the complaint goes in the HPI or ROS. However, resident training and higher have enough clinical knowledge to leave out mundane complaints. Right now assume you don't know enough to leave out complaints. There might be a connection between the CC and a lesser complaint that an attending can make but a student might miss.

If there are no complaints that should go in the ROS then use the following phrase: “Review of Systems is as previously mentioned in the HPI.” If there are complaints in the ROS then use the following phrase: “Review of Systems is as previously mentioned in the HPI but also includes...{non pertinent complaints}”

There are situations where some non-pertinent complaints are serious enough to be relabeled as a second chief compliant. For example, the patient’s chief complaint is a leg injury but further questioning also reveals the patient to have dysuria, back pain, fever and chills which is concerning for pyelonephritis. If the patient is allowed only one chief compliant, then dysuria, back pain, fever and chills are not pertinent data and by definition should be stated in the ROS. However, at times, complaints in the ROS get forgotten or even ignored. Therefore, dysuria should be moved from ROS and added to the HPI as a second chief compliant. "The patient is a 45 year old female who come to the ED complaining of a traumatic leg injury and dysuria.” Then you should divide the patient's history into two HPIs: one telling the pertinent information of the leg injury, the other telling the pertinent information of the dysuria.

PE
Always mention the Vital Signs first. It doesn't matter what order they are mentioned, but a common order is Temperature, Blood Pressure, Heart Rate, Respiratory Rate, and Oxygen Saturation. With oxygen saturation always mention modality of the oxygen delivery (room air, nasal cannula, continuous positive airway pressure). A patient with an O₂ saturation of 91% on room air is much different than a patient with the same O₂ saturation but is receiving 100% oxygen via a mask. There are some exceptions where vitals do not have to be recited individually such as minor trauma complaints like laceration, broken toes/fingers). In these
cases it is usually acceptable to say “the vitals are within normal limits”. However, make sure you know the specific values if asked.

For clarification, saying “vitals are within normal limits” does NOT equal “vitals are stable.” Vitals within normal limits mean that the patient’s vitals fall within a range of universally acceptable values. Stable vitals mean you have been getting serial vital values which are not changing. Furthermore, stable vitals can be “normal” or “abnormal.” Normal stable vitals signify unchanging vitals within the normal range. Abnormal stable vital signs are unchanging but are not within the normal range. After the vitals, only mention the pertinent physical exam findings. It is assumed that you did a complete physical exam from head to toe and that all exams (lung, cardiovascular, GI, Neuro, etc.) are normal unless otherwise specified.

Example 1. {CC = hand laceration} The vitals are within normal limits. The physical exam is non-contributory except for a 2 inch laceration on the thenar eminence. The laceration was superficial, no foreign bodies identified. The first digit had full range of motion, full strength, and no loss of sensation.

—{CC = abdominal pain} “The vitals are: temperature of 38.5, blood pressure of 135 over 87, heart rate of 98, respiratory rate of 16, and oxygen saturation of 98% percent on room air. The physical exam is non-contributory except for the abdominal exam which revealed a distended abdomen, hyperactive bowel sounds, diffuse tenderness to palpation but no guarding and no rebound tenderness.”

Labs/Studies

Usually there are no lab/study results to report prior to the oral presentation. However if there are labs and/or studies to report, do NOT recite all the data. For labs, only mention the abnormal values. Example—“the complete blood count is within normal limits and the chem 7 is within normal limits except for a sodium of 125.” For studies, only mention the overall impression the radiologist reports or your personal impression of the study.

Example 2. “the chest x-ray shows a left lower opacity”

Summary Statement

The purpose of the summary statement is to give an overall clinical picture in 2-4 sentences. There are 3 main components (listed as A, B, and C) which should be included into the summary statement:

A) The one liner

Within the one liner include the following components:

a. progression of the chief complaint—getting better, getting worse, or is static
b. chief complaint is chronic or acute

Example 1. The patient is a 50 year old male with a history of Coronary Artery Disease and Coronary Artery Bypass Graft times two who presents with improving acute chest pain.

Example 2. The patient is a 45 year old male with no significant past medical history who presents with worsening acute ankle pain.

B) 1-2 important symptoms and/or physical exam findings.

Example 1. The chest pain is similar to a previous myocardial infarction in that pain decreases with rest and sublingual nitrogen and also has a friction rub on exam.

Example 2. “The right metacarpophalangeal joint is swollen, erythematous, and painful”
which is similar to previous episodes occurring after drinking large quantities of alcohol.”

C) 1-2 important diagnostic studies or labs if available.
Example The electrocardiogram showed ST segment elevation in the inferior leads and the first troponin is still pending.
“The ankle radiographs shows soft tissue swelling, no fracture and the joint tap has needle shaped crystals.”

Do not recite all complaints, abnormal physical exam findings, or lab values in the summary statement because they were already mentioned earlier in the oral presentation. However, do mention the most important pertinent findings to refresh the listener’s memory.

For clarification, many students are instructed to give an impression statement after the physical exam section instead of a summary statement. However, students often are not given an explanation of how the two are different. To clarify the point, the two statements have been translated into symbolic definitions:
Summary Statement = the one liner + most important symptoms/PE findings + most important studies/labs
Impression = Summary Statement + speakers opinion of the most likely etiology or etiologies explaining the patient’s clinical picture.

Students should save their opinion for the Problem Assessment section in order to prevent the common mistake of only discussing one or two etiologies that can happen with using an Impression statement. As medical students gain experience, many switch to using the Impression instead of the Summary Statement which is acceptable but a more technical method.

Problem Assessment
The problem assessment is where each problem gets mentioned with you giving your analysis. The first problem mentioned does NOT have to be the patient’s chief compliant. For example, the patient complains of abdominal pain; but, since arriving to the ED the patient has started vomiting blood. The first problem mentioned should be hematemesis, not abdominal pain, even though the abdominal pain originally brought the patient to the ED. The general rule is to mention the most life threatening problem to the least life threatening problem.
Example 1. hematochezia
2. abdominal pain
3. headache
Within each problem you should give your assessment of the possible etiologies.
a. list the differential diagnosis
   Once again there is no correct order. Since the job of the emergency department is to rule out life threatening causes you should list the most harmful etiologies first followed by the most likely etiologies. A general rule is to state 2-4 etiologies from the harmful category and 2-4 etiologies from the likely category. Do not mention every etiology because the presentation must be kept ideally under 3-5 minutes.
   Example The differential diagnosis includes...
b. Give and explain facts that support and negate each etiology mentioned.
   Use physical exam findings, labs or studies, patient’s risk factors to argue for or against each etiology mentioned.
One way to structure the Problem Assessment is as follows:
The most harmful etiologies are 1), 2) and 3). 1) is a possibility because of ______. However, _______ and ______ do not support this because of ______. 2) is a possibility because of ____ but is less likely due to ______ and ______. 3) is ___. The most likely causes are i), ii), and iii). I believe the most likely etiology is ______ because of ______ and _______ but ____ and ____ do not support this because of _______

Example — “The harmful etiologies could be a septic joint, fracture, or ligament tear. A septic joint is a possibility due to the ankle being swollen, hot and erythematous. Also the patient is an intravenous drug user which increases the risk of a septic joint. Fracture is another possibility but the patient does not remember any traumatic events, the joint is hot which is unlikely with a fracture, and there is diffuse tenderness—not point tenderness which would be expected with a fracture or ligament tears. The more likely etiology is an acute gouty episode because of a positive family history, recent alcohol use and the involved joint is the 1st metacarpophalangeal joint which is classically the involved joint for gout.”

Plan

The plan should include labs or studies to help confirm your diagnosis or eliminate possible etiologies. Generally, it is assumed the listener knows why the tests are being ordered and thus you should only give a brief explanation to the listener why each test should be ordered. Also, the plan should include how the patient should be taken care of right now. For instance, if the patient is in pain, give an analgesic. If the patient is dehydrated, give fluids.

Example — “Therefore the current plan is to:
1. aspirate joint to check synovial fluid for crystals and send fluid for culture, gram stain, and white blood cell count.
2. for immediate pain relief, give 4 milligrams of morphine and give naproxen for anti-inflammation.”

Putting the Summary Statement, Problem Assessment and Plan together

“The patient is a 45 year old male with no significant past medical history who presents with worsening acute ankle pain. The right metacarpophalangeal joint is swollen, erythematous, and painful which is similar to previous episodes occurring after drinking large quantities of alcohol.”

‘The harmful etiologies could be a septic joint, fracture, or ligament tear. A septic joint is a possibility due to the ankle being swollen, hot and erythematous. Also the patient is an intravenous drug user which increases the risk of a septic joint. Fracture is another possibility but the patient does not remember any traumatic events, the joint is hot which is unlikely with a fracture, and there is diffuse tenderness—not point tenderness which would be expected with a fracture or ligament tears. The more likely etiology is an acute gouty episode because of a positive family history, recent alcohol use and the involved joint is the 1st metacarpophalangeal joint which is classically the involved joint for gout

Therefore the current plan is to:
1. aspirate joint to check synovial fluid for crystals and send fluid for culture, gram stain, and white blood cell count.
2. for immediate pain relief, give 4 milligrams of morphine and give naproxen for anti-inflammation.”
We hope you have found this guide to be helpful. Remember, be flexible in your structure and rely on your attending or upper level residents to provide appropriate feedback. Sometimes they need encouragement, so don’t be afraid to ask what you could have done better in your presentation. Also, remember that you are still a student. Your presentations still matter in terms of medical care, so err on the side of including more as opposed to less. Lastly, practice! Take advantage of every opportunity to present a patient that you can; you won’t get better without trying!