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# The 3-Minute Emergency Medicine Medical Student Presentation: A Variation on a Theme

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## 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.

ACADEMIC EMERGENCY MEDICINE 2008; 15:683-687 © 2008 by the Society for Academic Emergency Medicine

**Keywords:** education, presentation, oral, medical student

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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."<sup>1</sup> 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."<sup>2</sup> 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.<sup>3</sup> 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

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Received December 6, 2007; revisions received March 4 and March 28, 2008; accepted April 1, 2008.

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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.<sup>4</sup> 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."<sup>4</sup> 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.<sup>5</sup> 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."<sup>5</sup> 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.<sup>6</sup> 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."<sup>5</sup>

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."<sup>7</sup> 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,"<sup>8</sup> 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

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

Important EM Traits →	Characteristics of Oral Medical Record due to the Important EM Traits
Assume every patient has a life-/limb-threatening condition	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
Juggle multiple patients simultaneously	Present in less than 5 minutes. State CC first and focus only on CC unless other concerning problems arise
Prioritize patients	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
Address patient loyalty issues and consequences of incomplete medical records	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
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

The following sections are the required elements of a "typical" EM oral presentation: chief complaint (CC), history of presenting illness (HPI), medications, allergies, physical exam, summary statement, problem assessment, and plan. Detailed instructions to create an EM oral presentation primarily for medical students, *EM Oral Presentation Instruction Manual*, is available as an online data supplement at [http://www.blackwell-synergy.com/doi/suppl/10.1111/j.1553-2712.2008.00145.x/suppl\\_file/acem\\_145\\_sm\\_DataSupplementS1.pdf](http://www.blackwell-synergy.com/doi/suppl/10.1111/j.1553-2712.2008.00145.x/suppl_file/acem_145_sm_DataSupplementS1.pdf).

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 "mis-labeled."

## 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.<sup>9</sup> Lingard and Haber<sup>9</sup> 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  
How to Correct Common Mistakes of the Oral Presentation

Pitfalls in Oral Presentations	Example	Method on How to Change Pitfall
Failure to include relevant PMHx	An elder patient has an acute episode chest pain but student does not mention patient had a CABG 2 years prior	Tell the student that any conditions that can cause the CC should be labeled pertinent and included in the oral presentation
Including nonrelevant ROS in the HPI	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	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
Including PE findings in the HPI or ROS	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	Remind the student that anything they see or do to the patient should only be mentioned in the physical exam section
Poor body language	The student has distracting gestures during presentation	Explain why body movements are distracting and encourage verbal descriptions

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."<sup>5</sup> 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.

The authors thank Dr. Alison Mann for assistance with manuscript preparation.

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### 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](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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