

Oral Case Primer

The development of outstanding oral presentation skills is one of the most important aspects of clinical training in medical school. Good communication skills are integral to good patient care. Furthermore, a good oral case presentation goes beyond simple transmission of information to give the audience insight into the presenter's thought process and, indirectly, skill as a clinician. This module will discuss the components of an excellent oral presentation, with opportunities to practice each.

Students often struggle with expectations regarding oral case presentations. In one study comparing the perceived expectations of third-year medical students and their preceptors, students "described and conducted the presentation as a rule-based, data-storage activity governed by order and structure". Preceptors, on the other hand, viewed the presentation as a "flexible means of communication and a method for constructing the details of a case into a diagnostic or therapeutic plan." [Haber RJ, Lingard LA. J Gen Int Med. 2001; 16(5):308] Therefore, while certain rules are universal, the definition of a "good" oral presentation will depend on the situation. The complete oral presentation that you might give to a teaching attending in a classroom setting may not be very different from your written presentation, which details everything you know about your patient. Oral presentations on work rounds will be considerably shorter, however. Inpatient presentations may differ in style from those in the outpatient setting. **This primer will focus most specifically on the focused, problem-based inpatient case presentation given on work rounds, where a premium is placed on brevity and clinical decisionmaking.**

Keys to an efficient, informative presentation include:

- (1) good data collection
- (2) selection of the most pertinent information
- (3) organization

Data collection is the subject of interviewing courses. This primer will focus on selection of pertinent information and organization. To demonstrate some important principles, we'll use a series of case examples.

WHAT'S PERTINENT

"Pertinent" information is that which helps to answer a question. Pertinence, therefore, may be considered under several different criteria:

- What's the Dx?
- How sick is this patient?
- Is the patient getting better or worse?
- Does the patient have predisposing conditions or risk factors?
- Are there barriers to treatment/follow-up?

For any piece of information that you include in your focused oral presentation, you should have an answer if your preceptor asks, “Why did you tell me that?”

[Click here for exercises in identifying “What’s pertinent”](#)

ORGANIZATION

Most physicians have been trained to present information in a standard order. Once trained, they process information best when presented to them in the same, anticipated order.

Chief Complaint

Some people like the direct quote: *Example:*

“He can’t breathe right”

This style is often used in triage setting (e.g. nurse records at the top of form for ED or illness visit). This is also how you would start a presentation in case-based learning session. In either setting, this short, literal statement sets a tone of discovery: we need to uncover the information to explain why our patient is “not breathing right”. This is the most objective way to start a presentation, starting with the problem as identified by the patient and transitioning ultimately to the assessment (i.e. problem(s) as identified by the physician). Emphasis here is placed on accurate reporting, and this is the way that many/most medical students are taught to record their initial written H&P note.

Other preceptors/institutions may expect a sentence (sometimes referred to as an identifying statement) that includes demographics and the reason for presentation:

Example: Armon is a 4 month-old former 28 week premature male infant with a history of chronic lung disease presenting with increased work of breathing.

This statement (1) requires additional knowledge about the patient and (2) has translated the patient’s chief complaint into “increased work of breathing”. Both of these changes demonstrate interpretive work on the part of the speaker: deciding what demographic information to include in the identifying statement, and eliciting enough information to better define what the patient meant by “can’t breathe right” → could have meant labored breathing, rapid breathing, noisy breathing, or not breathing at all! Simply changing this first sentence has increased the efficiency of communication by shifting the conversation from breathing problems in general to a focus on Armon’s problem.

Whichever style is preferred, the most important point is that your listener understands from the very first line the context in which they are listening to the story.

Bad Example:

Armon is a 4 month old former 28 weeker with a history of gastroesophageal reflux, status post G tube and gastric fundoplication, chronic lung disease, intraventricular hemorrhage and developmental delay. He was intubated in the delivery room and admitted to the NICU. He was extubated after 3 weeks, but remained in the hospital for an additional two months on supplemental oxygen. His mother brought him to the ED last night because she was worried that he was breathing hard.

While there is a lot of important information here, this identifying statement includes too much information that is extraneous to the primary problem, yet excludes the chief complaint. It is not until the 4th sentence that the listener knows why the patient is here now. Your listeners will begin the process of clinical problem-solving from the first sentence of your presentation, but only if you have defined the problem that they are trying to solve.

History of Present Illness (HPI)

This will be the most important and most detailed part of the history. It should be chronological and tell an easy-to-follow story.

Important Considerations:

□ Where to start the story?

Consider the impact that the order of the presentation has in the case of Johnny: *CC: Johnny is a 9 y.o. boy with right arm pain.*

HPI: The pain began 4 days prior to admission just above the elbow. By the next day, Mrs J. noticed that the area was red. By the evening of admission, the area of redness had doubled in size and was exquisitely tender, and Johnny had developed fever. If you are the listener, how broad is your differential at this point?

Three months prior to admission, Johnny fell off of the monkey bars and sustained a supracondylar fracture of his right humerus. He was admitted for surgical repair of the fracture, requiring placement of three pins. 7 days ago he was re-admitted for removal of the pins, and went home the next day.

As a listener, how would you have processed the story differently if you had heard this paragraph first, before the preceding paragraph? Though Johnny's mother may have told the story exactly as listed above, you may decide that the HPI truly begins three months ago. In contrast, if Johnny had had appendicitis 3 months ago (a clearly unrelated problem), the HPI for his arm pain would begin 4 days prior to admission, and his appendectomy would be relegated to PMH, since it is unlikely to be relevant to the chief complaint. HPI vs. PMH, therefore, is not defined by a prescribed time interval, but rather by relevance to the primary problem.

While taking your history, you might ask "When was the last day that he was completely healthy?" or "What was the first thing you noticed that was wrong with

him?” When preparing to report the history for an acute illness, try to complete the sentence “He was well until...” (may not work as easily for a patient with a chronic complaint/illness)

- Chronology

Shania is a 10 month old girl with chief complaint of left ear pain. Her pain started 3 days ago. She was seen that day at the ED, where she was told that her ears looked fine, but her pain worsened today, so she was brought back to the ED. She developed URI symptoms 5 days ago. Her fever started yesterday morning. Mom was worried about an ear infection, so for the last 3 days she has been giving Shania some amoxicillin that was left over from her last ear infection.

How easy was it to follow the progression of Shania’s illness? Though ear pain is identified as the chief complaint, this illness appears to have started 5 days ago – start there and build a timeline.

Shania is a 10 month old girl with chief complaint of left ear pain. She was well until 5 days ago, when she developed URI symptoms. 3 days ago she developed left ear pain. She was seen at the ED and told that her ear exam was normal. Nevertheless, mom was concerned about otitis and started Shania on Amoxicillin left over from a previous ear infection. Despite this therapy, Shania’s ear pain has persisted, with onset of fever yesterday. She returned to the ED today.

- Stick to the HPI when presenting the HPI (...then the exam, etc)

Note the phrases below that should be included in other sections of the presentation, not the HPI:

Shania is a 10 month old girl with chief complaint of left ear pain. She was well until 5 days ago, when she developed URI symptoms, ~~but I didn’t think that her nose seemed very congested.~~ [physical exam] 3 days ago she developed left ear pain. She was seen at the ED and told that her ear exam was normal, ~~but I thought that the eardrum looked red on my exam last night.~~ [also physical exam]

- Avoid editorializing

Nevertheless, mom was concerned about otitis and started Shania on Amoxicillin left over from a previous ear infection. ~~I explained to mom that using old prescriptions isn’t a good idea. I’m also not sure why she wouldn’t have finished the prescription last time.~~

Best to keep HPI as objective as possible. Opinions belong in the assessment, where you might comment on any thoughts you have, for example, about patient education around prescription medication use.

- Level of detail

While the details of the HPI are, almost by definition, pertinent to the patient’s illness, it is still possible to report too many details:

Shania's fevers started yesterday. Fever was initially 102.2; mom gave a teaspoon of acetaminophen, and the fever came down to 99. The fever went back up again the next day, but only to 101.7, and resolved again with acetaminophen. By the day of admission, fever went as high as 103; mom had run out of acetaminophen, so she gave ibuprofen this time.

Could be stated more succinctly as:

Shania has had two days of intermittent fevers, reaching a maximum of 103 today and treated with acetaminophen and ibuprofen.

[Note: in this example, asking mom about dosage and frequency of over the counter meds is a great question, and you would report this information if you were concerned that the dosing was inappropriate. If dosing is okay, however, then this info adds little meaning to the story]

□ Where does HPI end?

The HPI is everything that happens before your patient reaches you. On an inpatient service, this often includes a trip to a medical office/urgent care/emergency room before admission. These visits to other physicians before arrival at your service are part of the HPI (typically the last part). These visits should be encapsulated as succinctly as possible and should follow the same format as the larger presentation (general appearance / most salient exam findings / labs, studies done / interventions). *In the ED, Shania was in moderate discomfort, febrile to 40.2 and tachycardic. She was diagnosed with left otitis media and noted to be moderately dehydrated. She vomited after attempting to drink liquids, so an IV was placed, she was given a normal saline bolus and ampicillin, and she was admitted for further management.*

If a piece of data is critical to the progression of the story, report it. Consider the case of Antwan:

In the ED, Antwan was in moderate discomfort, febrile to 40.2 and tachycardic. He had a rigid abdomen and was moderately dehydrated. His white blood cell count was 12.2, CRP 12, and Abdominal CT showed a peri-appendiceal abscess. He received a normal saline bolus, morphine, and piptazobactam and was admitted for management of suspected ruptured appendicitis"

In this example, "*the CT scan at outside ED showed a peri-appendiceal abscess, and patient was admitted for management of suspected ruptured appendicitis*" is more informative to your audience than "*a CT scan was done and the patient was admitted*", yet many students will withhold the CT findings because they have been drilled to include this only when they get to the data section

PMH

As mentioned above, the HPI is, by definition, pertinent to the patient's problem.

The components of the past medical history (PMH), in contrast, may or may not be contributory to the patient's immediate problem.

The team will generally want to know about all medical conditions (even if the patient was not admitted for that problem), medications and allergies, but the level of detail required will be determined by relevance to the patient's current medical problem.

If Susie is a 6 yo girl with a one-week history of worsening cough, then her history of asthma is quite pertinent and would be mentioned in the HPI, then presented in detail in the PMH:

...Susie was diagnosed with asthma at age 2. She was hospitalized at the time of her initial diagnosis, but has had no subsequent hospital admissions. In the past year she has had no ED visits for asthma and has had one course of oral steroids. She takes inhaled fluticasone twice daily and as needed albuterol, which she uses approximately once per month. Her usual triggers include URI's and exposure to cats.

However, if this same PMH had been elicited for Johnny (the 9 year old boy with arm pain), the team still needs to know that Johnny has asthma, but this information could be stated more succinctly:

...Johnny has a history of asthma which is well-controlled with inhaled fluticasone and prn albuterol.

SOCIAL Hx / FAMILY Hx

Too often, **social history** is undervalued. Patient's illnesses do not occur in a vacuum, and their home situation, employment, access to health care, relationships, and religious/cultural beliefs will all impact their health. This information, therefore, should be routinely elicited, but relevance to the focused oral presentation may be hard to define (recognize that some attendings will want a social backdrop painted for all patient presentations).

As a general rule, consider whether social history helps to define:

- risk factors for illness (e.g. patient with asthma has a cat),
- desired treatment options (e.g. Jehovah's witness preparing for surgery), or
- logistics of ongoing care (e.g. single parent, as sole source of income for household, told to schedule multiple outpatient follow-up appointments).

Family history is most pertinent when it helps diagnose the etiology of the chief complaint. "*Susie's father has asthma*" is

- very important if Susie is presenting for evaluation of recurrent cough of unknown etiology,
- less important if Susie is a known asthmatic having an exacerbation, and
- not contributory if Susie was admitted for cellulitis.

REVIEW OF SYSTEMS

Review of Systems (ROS) should never be presented in its entirety (but should be recorded in the written note). In fact, since most pertinent findings (positive and negative)

are in the HPI, it is not uncommon to omit the ROS entirely from a focused oral presentation.

PHYSICAL EXAM

The physical exam should be presented in a predictable (generally head-to-toe) order. A few things should always be included:

- **General appearance**

Well/ill/toxic

General statement should be pertinent to chief complaint: if the patient presented with a respiratory complaint, the general statement beginning the physical exam should note whether he/she is in respiratory distress. If the patient presented with pain, describe his/her apparent degree of discomfort. - **Vital signs**

They are called “vital” for a reason.

If you are reporting on a patient that you have followed over time, trends are often more helpful than ranges:

For example, stating that “*the heart rate has ranged from 80-150*” could mean many different things. Compare the following:

- *The heart rate has improved from 150 on admission to 80 this morning*
- *The heart rate has risen from 80 to 150*
- *The heart rate has been in the 80’s except for isolated tachycardia to 150 associated with a fever to 104F*

- **All abnormal findings**

Trends are also helpful here; if you have examined the patient multiple times, has the finding evolved (for better or worse)?

- **Normal findings that pertain to the patient’s medical issues**

If the patient is admitted with dyspnea, then reporting that the patient “*has symmetric breath sounds with good aeration bilaterally and no wheezes or rales*” is an appropriately level of detail for the lung exam, even though these are all normal findings.

However, if the patient presents with a limp, then reporting that the patient “*has symmetric breath sounds with good aeration bilaterally and no wheezes or rales*” provides a level of detail that is unnecessary. Either state simply that the “*lungs are clear to auscultation*”, or omit the lung exam from your oral presentation altogether (of course you listened to your patient, you are just not reporting it!)

Some attendings may ask you to mention every organ system (even if just to acknowledge that it was examined and is normal). Even in that case, the items above should be emphasized (what some would call a “verbal highlighter”) by amount of detail reported and tone of voice.

LABS/STUDIES

Unlike the physical exam, there is no generally accepted order in which labs/test results should be reported. Start with those most pertinent to your patient’s condition. Though there are many shorthand techniques for reporting numbers in written notes, avoid using these techniques while speaking:

“*CBC showed 12.2, 11.7 and 34, 250K*” may look like the order in which CBC results were written in your note, but it is very hard to listen to. Make sure that results presented verbally are clear: “white blood cell count was 12.2, hemoglobin 11.7 and platelets 250,000”.

SUMMARY STATEMENT

A **summary statement** is a one or two sentence synthesis of the key features of the patient’s condition. [The ideal summary statement provides the basis for developing an appropriate differential diagnosis \(DDx\).](#)

The key components of a syndrome statement are:

(1) Epidemiology

Demographics – age, gender, race

Predisposing conditions – conditions that are intrinsic to the patient (e.g. hypertension, obesity, prematurity)

Risk factors – factors that are extrinsic to the patient but may contribute to pathophysiology (e.g. smoking, unprotected sex)

[note: include only the details that are important to your diagnostic reasoning]

(2) Key Clinical Features

Symptoms – uncovered by history

Signs – found on exam Data –

labs, radiographs, etc.

(3) Semantic qualifiers

Semantic qualifiers are adjectives or adverbs that describe the key features.

These qualifiers are often (but not always) dichotomous. Several attributes used to characterize key features are listed below, with examples of common qualifiers:

- Location (unilateral vs. bilateral; diffuse vs localized; radiating; migratory)
- Quality (burning; stabbing; throbbing; dull)

- Severity (mild vs. moderate vs. severe)
- Chronology (acute vs. subacute vs. chronic; worsening/escalating vs. resolving; constant vs. colicky/intermittent/episodic; insidious/gradual vs. paroxysmal/abrupt onset)
- Setting (post-prandial; nocturnal; exertional)
- Aggravating/alleviating factors
- Associated manifestations (“complicated by…” if one condition leads to another)

“A 12 y.o. boy with chronic, recurrent colicky abdominal pain” conjures up a different thought pattern than *“A 12 y.o. boy with acute onset of sharp RLQ pain”*. Though both boys had a chief complaint of abdominal pain, the two different sets of qualifiers trigger very different differential diagnoses for these two patients. The purpose of using semantic qualifiers, therefore, is to narrow the DDx under consideration.

(4) Transformation

Good summary statements transform lay language (e.g. swelling) and or discrete data (HR = 180bpm, Na = 125 mEq/dL) into more meaningful medical jargon: (swelling → edema, HR 180 → tachycardia, Na 125 → hyponatremia).

Groups of findings may also be transformed into unifying medical concepts: e.g. decreased urine output + tachycardia + dry mucous membranes → dehydration

Putting it all together

A Summary Statement identifies who a patient is and what their major problems are, adding descriptive terms to define these problems better in terms of severity or diagnostic considerations.

Consider the following two examples of summary statements:

“Zander is a 5 week old boy with 3 weeks of vomiting after meals. He has tried many different formulas, but his vomiting is getting worse. Vomitus has had no bile. His exam is notable for HR 182, decreased weight, sunken fontanel, and cool extremities.”

This statement is good. The ability to identify highlights is the most important first step. However, there is no use of semantic qualifiers or transformation.

A better summary statement might sound like:

“Zander is a 5 week-old boy with moderate dehydration due to progressive, non-bilious, post-prandial vomiting unresponsive to formula changes.”

This example transforms highlights into problems: tachycardia + decreased weight + sunken fontanel + cool extremities (findings presumably already reported in your physical exam) = moderate dehydration. The use of semantic qualifiers sets the stage for the differential diagnosis for this child’s other problem, i.e. vomiting: *after meals* becomes *post-prandial*; *progressive* clearly communicates that he is getting worse;

nonbilious helps to narrow the potential causes of his vomiting. All of these descriptors should change the way that you and your audience think about the etiology of this patient's vomiting.

In some cases, the problem will be reported as a **symptom**. In other cases, when established by the data you have already collected, the problem will be reported as a **diagnosis**. In the example above, if Zander has had an ultrasound showing an enlarged pyloric muscle, then his problem is no longer "vomiting" (with discussion of differential diagnosis to follow); his problem is "pyloric stenosis". As your understanding of the problem gets more refined, it should be renamed in the most accurate language possible.

In the following examples, note how the summary statement evolves from the chief complaint as more information is acquired:

□ *CC: Abdominal pain and vomiting*

Adam is a 15 year old boy who presents with abdominal pain and vomiting. His pain started yesterday and occurs primarily after eating. He has had no diarrhea.

Adam is a 15 year old boy with acute post-prandial vomiting and abdominal pain in the absence of diarrhea

PMH is notable for sickle cell disease complicated by multiple pain crises and one episode of acute chest syndrome.

Adam is a 15 year old boy with sickle cell disease, now with acute post-prandial vomiting and abdominal pain in the absence of diarrhea

His exam is notable for well-localized tenderness to palpation in the RUQ.

Adam is a 15 year old boy with sickle cell disease, now with acute post-prandial vomiting and RUQ pain

GGT, alkaline phosphatase and bilirubin are elevated

Adam is a 15 year old boy with sickle cell disease, now with acute post-prandial vomiting, RUQ pain and labs consistent with cholestatic disease

□ *CC: Abdominal pain and vomiting*

Beth is a 15 year old girl with onset of lower abdominal pain 4 days ago. She has progressive amounts of vaginal discharge, and yesterday developed fever to 102F. She vomited twice today and has had decreased appetite. She has had sex with two partners and does not use any form of birth control.

Beth is a 15 year old girl with h/o unprotected sex presenting with vaginal discharge, acute pelvic pain, fever, and vomiting

She walks slowly across the room, complaining that her pain worsens with each step. She has no tenderness over her upper abdomen, but she is tender to palpation in both lower quadrants and in suprapubic region, and she winces when you shake her hips. She has copious yellow vaginal discharge and exquisite tenderness with movement of her cervix.

Beth is a 15 year old girl with h/o unprotected sex presenting with purulent vaginal discharge, fever, cervical motion tenderness and focal peritoneal signs

Though each of these patients presents with abdominal pain, Adam's syndrome statement is ultimately quite suggestive of cholecystitis, whereas pelvic inflammatory disease is a leading consideration for Beth.

ASSESSMENT/ PLANS

Though a summary statement can be constructed at any point in a case, it is often offered as the introduction to the assessment. The summary statement identifies a patient's major problems; an **assessment** includes a diagnosis or differential diagnosis for each problem. As noted above, name each problem in the most specific language possible – this will facilitate a differential diagnosis that is as narrow and specific to your patient as possible. If the diagnosis is still in question, the use of words such as “probable...suspected/likely...possible...less likely...unlikely” allow the presenter to communicate degrees of certainty while discussing the differential in order from most likely to least likely diagnoses.

In addition to discussing a differential diagnosis (if applicable) for each problem, an assessment should include a description of problem severity and clinical progression (i.e. getting better, getting worse, staying the same).

Following the assessment, each problem should have its own plan. **Plans** include both diagnostic and therapeutic interventions.

Finally, discuss all active problems in order of descending importance. Do not use system labels as the headers for discussion in your A/P or discuss each patient in a head-to-toe systems order. “Vomiting” is a problem; “GI” is a system label. While a systems-based approach is a nice review (to make sure that you didn't overlook a problem), a problem-based approach is much more effective and appropriate.

Let's look at an assessment for Zander:

“Zander is a 5 week-old boy with moderate dehydration due to chronic, progressive, non-bilious post-prandial vomiting.

The most likely cause of his vomiting is pyloric stenosis in light of his age, gender, the progressive nature of his vomiting and the absence of other symptoms such as fever or diarrhea. Milk protein intolerance is also common at this age and can present with progressive symptoms, but Zander's lack of response to multiple formula changes makes this less likely for him. Gastroenteritis seems less likely in the absence of diarrhea and in light of the duration of his symptoms, We need to remember that CNS injuries can present with vomiting in the absence of fever or diarrhea, but the duration of symptoms and sunken fontanel on exam make this less likely as well.

My plan is to order a pyloric ultrasound to confirm or exclude pyloric stenosis. If the pyloric ultrasound is normal, we could offer him Pedialyte to take formula intolerance out of the equation.

Regardless of the cause of vomiting, Zander is moderately dehydrated. We should place an IV, obtain blood for serum electrolytes, and give him 20 mL/kg of normal saline. I would like to see the results of his electrolytes and his response to the first fluid bolus (particularly his heart rate) before I write further fluid orders. I want to keep him NPO until we can get the pyloric ultrasound done.”

The syndrome statement identifies two major problems: (1) vomiting and (2) dehydration. Note that each problem has a discussion and plan. The discussion for vomiting is focused on diagnostic reasoning (*Why is he vomiting and how can we find out?*), while the discussion for dehydration is more therapeutic in nature (*How severe is the problem? Are there associated problems, such as electrolyte abnormalities? How are we going to monitor response to therapy?*).

[Link to Linda’s “Assessment and Plan Exercise”](#)