

## CHAPTER ONE

### **Introduction to the Diagnosis and Treatment of Students Failing Standardized Patient Examinations**

Students fail standardized patient examinations for a variety of reasons and faculty members are left with the dilemma of helping them. The dilemma is frustrating because we don't really have much of a guide for doing that. Remediation is often haphazard, rotely applied and/or too general. For example, a student failing a standardized patient examination will often be remediated by being required to rotate on a clinical unit for a month with an assigned faculty member. The core problem (diagnosis) behind the failure is never made clear beyond the fact that the student did not perform up to passing standards on the examination (which is the presenting finding of the problem). This misstep is akin to treating all patients who have chest pain with sublingual nitroglycerin. Certainly this would not be tolerated for patients; faculty can do better for students as well. Our 'treatments' need to be much more specific and targeted, based on a clear diagnosis.

So how do we diagnose and treat the failing student? What is the outcome of our 'treatments'? The parallels between Harrison's Principles of Internal Medicine (Fauci et al 2008) and this objective become obvious.

The diagnosis and treatment of patients (ala Harrison's) follows this rubric.

## Diagnostic rubric for patients

Patients have:

Symptoms – Manifestations of a disorder that the patient perceives. (Chief complaint and associated symptoms)

Findings – Manifestations of a disorder that the patient's clinician perceives during an examination (additional history elicited by the physician and physical examination results).

Patients undergo:

Laboratory tests – Any of a wide variety of diagnostic entities used to collect additional data in a controlled manner and narrow down a list of possible diagnoses to the final diagnosis.

Patient (comes in with symptoms) >> Doctor formulates an initial differential diagnosis>>>Doctor gathers additional history and physical>>>Uses these findings to narrow the differential diagnosis>>>Orders laboratory tests>>>Uses results to come to a specific diagnosis>>>>Treats diagnosis specifically.

The diagnosis and treatment of students, using a parallel rubric, appears as follows.

## Diagnostic rubric for students

Students have:

Symptoms – Manifestations of a disorder that a student perceives. This is less commonly found in students than in patients, since students are rarely self-referred for treatment, but rather are identified by a failure (finding) of some sort, in this case, the failure of a standardized patient examination.

Findings – Manifestations of a disorder that the teacher or program director perceives or that come to attention

through any other mechanism – for example, a patient complaint. The manifestations that command attention of faculty members do so because of their prominence or persistence and their maladaptive characteristics.

Students undergo:

Laboratory tests – Any of a wide variety of controlled educational or assessment interventions used to narrow down a list of possible diagnoses to the final diagnosis. At this stage the available laboratory tests are limited and unproven.

THUS: Symptoms + Findings + Laboratory tests >>> Specific Diagnosis >>> Targeted Treatment of the failing student.

Using the Harrison's format to diagnose and treat the failures of students will allow us to use what we know of the nature and assessment of competency to help students improve their performance in a rational and evidence-based manner. Thus, an educator faced with a student having failed a standardized patient examination will be able to discern whether the student needs work with symptom presentations and diagnostic pattern recognition or with communication skills. (Chest pain caused by angina will be treated with sublingual nitroglycerin, but chest pain caused by endocarditis will not!) Once the correct diagnosis has been made, a rational--and effective--treatment can be applied.

Standardized patient examinations test a variety of specific competencies, including technical skills, clinical reasoning, knowledge, the ability to relate to patients and others, and documentation ability. Any or all of these competencies may be deficient in a failing student, and thus the diagnostic approach to these students must be comprehensive in nature. Likewise, remedial activities may well involve multiple approaches.

This book is organized to help the reader formulate and follow a rational diagnostic approach once it has been determined that such a workup is necessary. Chapters and sections of the book are structured to help make this process efficient and effective. Multiple case examples are included throughout to elucidate concepts and have been placed in boxes in the text so they are more readily identifiable. Following the diagnostic portion of the book are listings of the variety of ‘disorders’ that may cause students to fail standardized patient examinations, organized by the broad types of deficiencies which may be seen (for example, disorders of information gathering or disorders of documentation and/or presentation). Within each of these chapters are remedial (treatment) suggestions, including thoughts as to the ‘prognosis’ of the various ‘disorders’ as these are available. Again, student case material is provided. Throughout the book, particularly important points have been placed in bolded text. In Part 2 of the book, three student cases are presented to allow the reader an opportunity to practice the skills learned from reading the book. An Appendix gives a list of all diagnoses discussed throughout the book, compiled in a table for easy reference.

**PART 1**

Chapter 1 – Introduction

Chapter 2 – Failures on SP exams

Chapter 3 – Disorders of the SP exam itself

Chapter 4 – General Approach to Diagnosing Standardized Patient Examination Performance Problems

Chapter 5 – Diagnostic Approach (Diagnostic Procedures)

Chapters 6-12 – Disorders and Treatment of Failing Students

**PART 2**

Practice Cases #1-#3

**Appendix**

Disorders that may cause student failures on standardized patient exams

The organizational strategy used in this book to categorize failures on an SP exam was chosen because it reflects a logical listing of ways in which failing students might present. For example, a student who fails to elicit half of the required information via the history and physical in an exam can easily be seen to have a deficiency in the area of information gathering. Whether this deficiency is due to problems with knowledge, skills or attitudes is the meat of Chapter 6. Likewise, a student who cannot formulate reasonable differential diagnoses and thus fails the exam will be considered in Chapter 7. We openly acknowledge that there are many other organizational strategies we might have employed which may have worked equally well.

Two other organizational strategies are worth mention because they have influenced our chosen method.

**Situation awareness**

Situation awareness (SA) refers to a person's perception and understanding of his/her dynamic environment. (Endsley 1995) SA has been studied extensively in the aviation world and its parallels to medicine are striking. (Jones and Endsley 1996) There are three levels of situation awareness that have been categorized and studied. A brief description of each level is included below.

Level 1 = Failure to correctly perceive information. This level relates to the ability of the student to perceive information presented about a patient. Errors that can occur at this level include: failure to elicit, perceive, retain or record key information.

Level 2= Failure to comprehend the situation. This level deals with the ability of a student to integrate information and to comprehend and interpret patterns of information. This includes recognizing the patterns of findings that are indicative of a diagnosis and the ability to recognize and appreciate deviations from expected values (and thus includes the ability to recognize the need to revise the original diagnosis).

Level 3 = Failure to project the situation forward and backward in time and across multiple organ systems. In this level, students must demonstrate the ability to project the current patient situation across time and space, and react in an appropriate manner. This level has ramifications for the student's ability to choose diagnostic actions (history, physical and laboratory studies) as well as to design a treatment program and guide the patient through it in a successful manner.

To make the correct diagnosis using history, physical examination and laboratory studies, then successfully propose and implement a treatment plan for a given patient, a physician must have a high degree of situation awareness at all three levels. The standardized patient examination simulates the patient-doctor relationship with a relatively high level of fidelity, and thus the degree of a student's situation awareness becomes crucial. As such, any or all of the three areas can become an area of deficiency for a failing student.

### Parallels between this Book's Chapters and SA levels

Chapter 6	Disorders of Information Gathering	Level 1 Situation Awareness
Chapter 7	Disorders of Reasoning/Interpretation/ Differential Diagnosis	Level 2 Situation Awareness
Chapter 8	Disorders of Management/Treatment Planning	Level 3 Situation Awareness

### RIME rubric (Pangaro 1999)

The Department of Medicine at the Uniformed Services University developed a vocabulary encompassing the growing responsibilities of a trainee developing competence, from early clinical experiences in medical school to the more demanding tasks of a resident. This progress from 'reporter' to 'interpreter' to 'manager' to 'educator' is referred to as the 'RIME scheme'. Each step represents a synthesis of abilities.

**Reporter** - The student can accurately gather and clearly communicate the clinical facts on patients interviewed. Mastery in this step requires the basic skill to do a history and physical examination and the basic knowledge to know what to look for.

**Interpreter** - Making the transition from 'reporter' to 'interpreter' is an essential step in the growth of a third year student, and often the most difficult. At a basic level, a student must prioritize among problems identified. The next step is to formulate a differential diagnosis. Follow-up of tests provides another opportunity to 'interpret' the data.

**Manager** - This step takes even more knowledge, and judgment in deciding when action needs to be taken, and to propose and select

among options for patients.

A key element is the ability to tailor the plan to the particular patient's circumstances and preferences.

**Parallels between this Book's Chapters and RIME levels**

Chapter 6	Disorders of Information Gathering	R (recorder level)
Chapter 7	Disorders of Reasoning/ Interpretation/Differential Diagnosis	I (interpreter level)
Chapter 8	Disorders of Management/ Treatment Planning	M (manager level)