Central New Mexico Community College
Respiratory Therapy Program
Case Study Outline

1. Patient Profile
   a. History of Present Illness
   b. Past medical/surgical history
   c. Occupational/environmental history
   d. Alcohol/Drug Abuse history
   e. Home Medications
   f. Allergies

2. Initial Medical Management
   a. Admitting diagnosis
   b. Reason for admission vs being sent home
   c. Initial lab/diagnostic work
      i. Results/Interpretation
   d. Admitting vital signs
   e. Admission Assessment (probably done by MD)

3. Summary of Care
   a. Biggest portion of your case study.
   b. Should include a timeline oriented assessment of patient condition/diagnostic
      studies/therapies.
   c. YOUR assessments should be in this section and integrated into timeline

4. Future Plan of Care
   a. This section should include information about where your patient was when you
      last assessed them.
   b. Predict (based upon your knowledge of medicine) the course of illness for your
      patient.
   c. Plan for anything the patient might need (additional services/therapies) as the
      illness resolves
   d. Plan for any conditions that will now be chronic for the patient and the resources
      needed to take care of these chronic conditions.
Article Report Format

I. Bibliography:
   A. Title of article
   B. Author(s) of article
   C. Journal: include date, volume, and page number

II. Pertinent Information: Outline or summarize the major points of the article which relate to your Case Study.

III. Article must be current (max of 7 years old and peer reviewed) and attached to review.
PATIENT CHART REVIEW RECORD (worksheet or tool)

YOUR NAME ___________________________ DATE ________

HISTORY ____________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

PHYSICAL EXAM (AS NOTED BY M.D.)

CHEST ______________________________________________________________________________

HEART ______________________________________________________________________________

EXTREMITIES __________________________________________________________________________

DIAGNOSIS __________________________________________________________________________

RADIOLOGICAL REPORT:

BACTERIOLOGICAL REPORT:

LABORATORY REPORT:

<table>
<thead>
<tr>
<th>DATE</th>
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PULMONARY FUNCTION REPORT (IF AVAILABLE)

RESPIRATORY THERAPY ORDERED:

PHARMOCOLGY ORDERED:

COMMENTS ON RESPIRATORY THERAPY RATIONALE, EFFECTIVENESS, SUGGESTIONS:
PATIENT EVALUATION RECORD

YOUR NAME_________________________________ DATE___________

PHYSICAL SIGNS:

PATIENT’S COMPLAINTS:

VITAL SIGNS:  T_____  P_____  R_____  BP_____

CHEST EXAMINATION:
   INSPECTION
   PALPATION
   PERCUSSION
   AUSCULTATION

RADIOLOGICAL ASSESSMENT (IF AVAILABLE):

COMMENTS:

SUGGESTED THERAPY:
# HOW TO PREPARE AND PRESENT A CASE AT THE BEDSIDE

## I. Information needed for case presentation and source

<table>
<thead>
<tr>
<th>Information</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Established identifying Information on patient (Name, age, ethnicity, date of admission)</td>
<td>Admitting history or face sheet</td>
</tr>
<tr>
<td>B. Establish admitting diagnosis/problem(s)</td>
<td>Admitting history and physical</td>
</tr>
<tr>
<td>C. Note risk factors for developing pulmonary complications (smoking history, etc.)</td>
<td>admitting history</td>
</tr>
<tr>
<td>D. Established problems for which respiratory therapy ordered, if different from B.</td>
<td>Admitting history and physical exam</td>
</tr>
<tr>
<td>E. Relate respiratory symptoms physical findings and chest x-ray findings that are pertinent to therapy ordered (for ventilator patients summarize events leading to need for intubation and mechanical ventilation).</td>
<td>Admitting history and physical progress notes x-ray report</td>
</tr>
<tr>
<td>F. Relate any pertinent bedside observations (change in sputum color or amount, response to therapy)</td>
<td>Personal observation at bedside</td>
</tr>
<tr>
<td>G. Relate pertinent lab findings (e.g. blood gases, theophylline level, hematocrit, etc.)</td>
<td>Lab section of chart</td>
</tr>
</tbody>
</table>

### A. Information

- **Establishing identifying Information on patient (Name, age, ethnicity, date of admission)**
- **Establishing admitting diagnosis/problem(s)**
- **Note risk factors for developing pulmonary complications (smoking history, etc.)**
- **Establish problems for which respiratory therapy ordered, if different from B.**
- **Relate respiratory symptoms physical findings and chest x-ray findings that are pertinent to therapy ordered (for ventilator patients summarize events leading to need for intubation and mechanical ventilation).**
- **Relate any pertinent bedside observations (change in sputum color or amount, response to therapy)**
- **Relate pertinent lab findings (e.g. blood gases, theophylline level, hematocrit, etc.)**
II. Example of case presentations

A. Case No. 1 - Postoperative ward patient

A.K. is a 47-year-old white female with a 30-pack/year history of smoking who underwent an elective cholecystectomy two days ago. We (respiratory therapy) were asked to do CPT on the patient today because of postoperative atelectasis on the chest x-ray.

The patient complains of pain on coughing. She is not raising any sputum but normally coughs up approximately one-fourth of a cup of sputum/day. Physical assessment reveals an ineffective cough because of pain and a few bibasilar crackles that tend to clear with deep inspiration. The chest x-ray report confirms bibasilar atelectasis. Arterial blood gases this morning show a PO$_2$ of 46 on room air, PCO$_2$ 42, pH 7.38.

Do you have any other questions?

Give results of CPT.

Offer recommendations based on assessment and lab data.

B. Case No. 2 - Intensive care unit patient with status asthmaticus.

R.S. is a 2-year-old Hispanic chronic asthmatic admitted last night in status asthmaticus after failing treatment in the emergency room. We were asked to see the patient to deliver aerosolized ventolin and atropine on an alternating q 2 hours basis. The patient is also receiving an aminophylline drip and IV hydrocortisone. Prior to nebulizer treatments the patient has diffuse inspiratory and expiratory wheezes which tend to clear after treatment with both medications. Peak flow meter readings before and after the patient’s ventolin treatment at 6 AM were 25 and 100 L/min, respectively. Atropine nebs resulted in an increase in peak flow of 40 to 160 L/min. Arterial blood gases this AM show a PO$_2$ of 60 on 2L O$_2$, PCO$_2$ 34, and pH 7.38. The theophylline level was 10.

Questions?

Give recommendations based on assessment and review of lab data.
C. Case No. 3- -Trauma patients on ventilator

D.H. is a 20-year-old Navajo male who three days ago sustained chest injuries when the horse he was riding fell on him. Examination in the emergency room revealed flail anterio anterior chest wall segment on the left. Chest x-ray shows fractures of anterior and posterior ribs 4 thru 9. The patient was intubated in the emergency room because of respiratory distress, a flail chest and blood gases that showed a P0₂ of 40, PC0₂ 50 and pH 7.35 on room air.

The patient is presently breathing comfortable on a tidal volume of 900cc, IMV rate of 10, FIO₂ of 50% and 5 cm of PEEP. Breath sounds are present bilaterally but slightly more bronchovesicular on the left side posteriorally. Blood gases this AM show a P0₂ of 100, PC0₂ 36 and pH 7.38. (Pertinent) lab values are normal.

Questions?

Recommendations?
GUIDELINES FOR CLINICAL PROJECTS

Listed below are directions and guidelines for you to follow in organizing your case studies, pathological reports and article reviews. These reports should be worked on during your scheduled clinical times.

1. One case study and article review are to be written up and turned into the clinical coordinator each trimester, follow the outlines handed-out to you in class. Case studies will be presented orally in terms 2-5.

2. The subject matter of your reports should relate to Respiratory Therapy.

3. When working on your case studies do not take the chart out of the nursing station. If you need to obtain a chart from medical records 24 hours advance notice us usually required.

4. You may need to go to the hospital library to work on your article reviews. You will need to give your clinical instructor advance notice (usually 24 hours) of this request.

5. Relate your article review to your case study as much as possible.

GUIDELINES FOR ORAL PRESENTATIONS

1. Present your case study in an organized succinct manner.

2. Visual aids may be helpful, such as chest x-rays, graphic charts of lab results, etc. They are, not mandatory, but can improve your scores.

3. Be prepared to answer questions after or during your presentation. There, know your subject matter well.

4. Refrain from making unsubstantiated criticism concerning any aspect of your case study. For example, patient attitude towards illness, quality of care given, etc.
Central New Mexico Community College

RESPIRATORY THERAPY PROGRAM
CLINICAL RESEARCH PROJECT
EVALUATION FORM

Student ________________________________

Hospital ________________________________

Instructor ________________________________

Grading Scale:
3.60 – 4.00 = A
3.20 – 3.59 = B
2.50 – 3.19 = C
2.00 – 2.49 = D
Below 2.00 = F

Date ______/_______/_________ Total Points _______ Grade ______

Rating Scale:
4 – Outstanding; consistently exceeds expectations
3 – Above average; generally exceeds expectations
2 – Satisfactory; meets minimum expectations (improvements are recommended)
1 – Needs improvement; results are generally below expectations
0 – Unsatisfactory; inferior level of performance

I. Oral Presentation:

1. Presented information in a clear, concise and organized manner. 0 1 2 3 4
2. Complete patient profile was given to introduce case report. 0 1 2 3 4
3. Refrained from making criticisms and assumptions regarding care. 0 1 2 3 4
4. Utilized visual materials to present data and findings. 0 1 2 3 4
5. Information presented was structured in a logical sequence of events. 0 1 2 3 4
6. Used accurate and appropriate medical terminology. 0 1 2 3 4
7. Interacted with group to stimulate interest and keep attention. 0 1 2 3 4
8. Finished presentation with summary remarks and conclusions. 0 1 2 3 4
9. Answered group questions with accuracy and confidence. 0 1 2 3 4
10. Overall evaluation of the presentation. 0 1 2 3 4

Comments: ________________________________

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Origination Date: January 1987
Revision Date: September 2012
### Central New Mexico Community College

**RESPIRATORY THERAPY PROGRAM**  
**STUDENT CLINICAL RESEARCH PROJECT**  
**EVALUATION FORM**

### II. Written Report:

#### A. Case Study

1. Provided information to establish admission status and database.  
   - 0 1 2 3 4
2. Provided complete patient profile at admission.  
   - 0 1 2 3 4
3. Established history of chief complaints and present illness.  
   - 0 1 2 3 4
4. Established past history of illness, genetic and occupational factors.  
   - 0 1 2 3 4
5. Provided complete and accurate patient assessment information.  
   - 0 1 2 3 4
6. Established course of medical management implemented.  
   - 0 1 2 3 4
7. Covered diagnostic testing results to establish diagnosis of illness.  
   - 0 1 2 3 4
8. Identified therapeutic objectives that were established for care plan.  
   - 0 1 2 3 4
9. Presented respiratory care given and relevance to care plan.  
   - 0 1 2 3 4
10. Provided a summary which included recommendations for changes.  
    - 0 1 2 3 4

#### B. Article Report

1. Article was current and relevant to case study.  
   - 0 1 2 3 4
2. Identified important points of article relevant to case study.  
   - 0 1 2 3 4
3. Comprehended data and facts of article.  
   - 0 1 2 3 4
4. Interpreted information and showed application to case study.  
   - 0 1 2 3 4
5. Summarized article findings in a clear manner.  
   - 0 1 2 3 4

#### C. Quality of Written work

1. Neat and organized presentation of information.  
   - 0 1 2 3 4
2. Proper grammar used i.e., punctuation, spelling, and sentence structure.  
   - 0 1 2 3 4
3. Accurate uses of medical and respiratory care terminology.  
   - 0 1 2 3 4
4. Logical sequencing of information presented.  
   - 0 1 2 3 4
5. Complete information given.  
   - 0 1 2 3 4

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**Comments:**
Modern Respiratory Therapy education is beginning to indicate the need to include more problem solving, critical-thinking strategies in curricular activities (see attached article). The reasons for doing this include; changing roles of RCP’s that include patient assessment skills, creating “therapist-driven protocols”, participating in case management and critical care pathways, and in order to successfully prepare for the “Clinical Simulation” examination process.

The Respiratory Therapy Program at CNM has begun to incorporate “Problem-Based Learning” techniques (PBL); which are regarded as a means to achieving the critical thinking skills for RCP’s. One activity in this area will be to change the format of the “Student Clinical Case Presentation” assignment into more of an interactive, tutorial format – utilizing principles designed by the UNM Medical School model for PBL (see attached guide). What students need to become proficient in (over a period of time in RC Programs) is a method of presenting their case study to a clinical group – using the information they have gained about their patient, in a manner that promotes group interaction, stimulates learning issues, and ventures into the critical-thinking and problem-solving thought processes.

In the formal presentation of the case study, students will need to organize the material they have gathered, and present the case using a model for problem-solving and an organized case presentation format (see figure 2 and table 4 attached).

Key techniques for conducting the case tutorial session include the following suggestions;
* do not present the case as a lecture to the student group
** do present the case by providing relevant data and by guiding the group’s understanding of the patient’s progress
** do encourage each member of the group to participate in the case discussion
* do not provide information and immediately interpret results for the group
** do present data and ask for members of the group to interpret the results
** do make sure that all terminology used in the discussion is explained
* do not try to answer every question posed by the group
** do ask members of the group to assist in answering questions posed
** do create a “Learning Issues” list when discussions reach a point of indecision. Allow all individuals to participate in finding the answers to learning issues/questions, and re-visit these issues at the next meeting of the group.

R. Gentile Jr.
Fall, 1994
Primary Care Curriculum

Part 1

TEACHING AND LEARNING METHODS

The possible teaching-learning methods in medicine can be conveniently categorized in two ways. The first categorization is based on the person responsible for making the decisions of what the student is to learn. Is it the teacher (teacher-centered) or the student (student-centered)? The second category is based on how the body of knowledge and skills is organized for learning. Does it center on subject areas (subject-based) or problem areas (problem-based)?

These categories are often viewed as being at opposite poles of a spectrum:

Teacher-Centered ___________________________ Student-Centered

Subject-Based ___________________________ Problem-Based

While the distinctions may seem slight or “semantic” at first glance, the differences in concept, approach, and the skills required by both students and teachers to function optimally in either approach, are profound. Each method has its pluses and minuses.

In practice, many teachers use a combination of teaching techniques. However, most medical school faculty is much more familiar with teacher-centered, subject-based approaches. This familiarity results primarily from their own past experience and from the lack of opportunities to participate in, and learn about the techniques of, student-centered and problem-based methods during their training.

“The teacher is a midwife to students pregnant with ideas.”

— Socrates
PROBLEM-BASED LEARNING

A common misconception about problem-based learning is that simply because patient cases or clinical scenarios are scattered throughout the curriculum, the curriculum is “problem-based.”

The difference in a true problem-based approach is in the various ways “problems” are used and the variety of intended outcomes. A key distinction between a “problem-based” approach and other uses of problems is the placement of the problem in the learning process.

For example, a common use of patient cases and problems in basic science courses is the presentation of patients or clinical cases during lectures, the main goal being to indicate relevance of material being presented to future application. Another common use of cases (problems) is as a test (i.e., “problem-solving” exercises). A case is usually presented at the completion of a portion of the curriculum, the goal being to assess whether the student has mastered a body of information and can apply it in a “problem-solving” way. In this familiar approach, both teachers and students feel they must be “prepared” with information before being exposed to the problem. Another common use of a “problem” is a case study approach, or discussion, where the details of a selected clinical case are used as the framework for discussion. All are valid uses of problems.
Problem-based learning differs from these ways of using problems in two major ways: 1) the “problem” is presented at the beginning of a learning process, with no expectation of prior knowledge on the part of the learner (for this reason it is sometimes referred to as “problem-stimulated learning”), and 2) a desired outcome of the interaction with the problem is the generation of unanswered questions which guide subsequent learning.

“In summary, problem-based learning can be defined best as the learning that results from the process of working toward the understanding or resolution of a problem. The problem is encountered first in the learning process and serves as a focus or stimulus for the application of problem-solving or reasoning skills, as well as for the search for or study of information or knowledge needed to understand the example of the relevance of prior learning or as an exercise for applying information already learned in a subject-based approach. A problem in this context refers to an unsettled, puzzling, unsolved issue that needs to be resolved. It involves a situation that is unacceptable and needs to be corrected. Finding the answer to a question is not problem-based learning. The use a known principle or solution to explain an observation or phenomenon is not problem-based learning. The most frequently used problems from problem-based learning are patient problems, which need not be classical diagnostic entities or even resolved problems in order to be useful. Problems other than patient problems also can be used to stimulate student reasoning and learning. Evaluation of research results or journal articles, health-care-delivery problems, medical research problems, hospital or practice administrative problems, team function problems, and so forth, all can be used to achieve appropriate objectives in medical education.” (“Problem-Based Learning.” Barrows and Tamblyn, Springer, 1980).
STUDENT-CENTERED LEARNING

Student-centered learning is directed toward allowing students to develop the skills required to direct their own learning. It allows students to be active participants in their education by fostering and rewarding them in formulating questions and deciding for themselves the nature and extent of what they want to learn. This allows considerable individual flexibility for each student depending on his or her own background, interest, and learning style within a framework provided by the teacher.

In student-centered learning, Teachers:

1) **Recognize the value of interpersonal interaction** as the prime teaching modality and view students as responsible for their own learning.

2) **Play a facilitative role.** To begin with, teachers listen and encourage students to listen to each other. They observe. Does anyone have anything to say? Is there agreement or disagreement? Are students confused and in need of clarification? Are they bored and ready to move on? By paying attention to what is said and not said, the teacher gains a sense of student needs.

3) **Tolerate silence.** They give students time to ask and answer questions.

4) **Help keep track of the discussion** and encourage students to participate.

5) **Help students to uncover what they know and do not know,** and

6) **Guide them to the resources** that will help them learn what they do not know. What students do not know is used as a stimulus for self-study and for future group discussion.

K. Patricia Cross suggests that teachers can “cause learning by: (1) actively involving students in the learning task, (2) giving students an opportunity to practice what you want them to learn, and (3) setting high, but attainable goals.

The problem-based, student-centered approach enables us to realize all three recommendations. Because it is student-centered, it provides active involvement; because it is problem-based, it gives students a chance to do what we want them to do (diagnose and treat patients); and because the teacher expects the students to find the answer, it sets high expectations.

The Primary Care Curriculum (PCC) at the UNM-SOM is nationally and internationally recognized as one of the premier student-centered, problem-based medical curricula.
PART II

PRACTICAL TIPS FOR STUDENT-CENTERED TEACHERS:

• Don’t immediately provide an answer when asked a question.
  
  — First ask if the questioner can answer his or her own question.
  
  — Ask if anyone else in the vicinity can answer the question.
  
  — Ask permission for you to answer (or would the questioner like to try and find the answer first).
  
  — Provide the answer (if given permission—or if you think it will clarify a detail).

• Be patient.
  
  — If you pose a question, wait (15-20 seconds) before giving the answer.
  
  — Allow time for learners to search their memories. As experienced teachers, we often forget what it is like to be faced with learning something new for the first time.

• Positively reward students for asking questions.
  
  — It is probably more important for continued learning to efficiently identify what we don’t know than to identify what we do know. As learners, however, we are most often rewarded for “the right answer.”
  
  — Once students can ask a question, they can find answers in the variety of resources available to them.
  
  — People are more likely to actively pursue and retain answers to questions they them-selves ask.
  
  — When a student recognizes something they need to know about, this provides a “teachable moment.”
  
  — One role of a student-centered teacher is to establish a learning environment, which encourages students to ask questions.