

# Research and Case Study Guidelines for Students on Rotation



**A.T. Still University of Health Sciences  
Kirksville College of Osteopathic Medicine**

**Prepared for the Office of Academic and Regional Affairs by the A.T. Still Research Institute,  
KCOM**

Our mission is to advance patient care and wellness through development and support of premier research at the A.T. Still University of Health Sciences.

Production of this publication is funded by the Academic Administrative Units in Primary Care Grant D12HP00156 between the A.T. Still University of Health Sciences/Kirksville College of Medicine and the U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, Division of Medicine.

For more information on the Research Institute, please call (660) 626-2397 or go to [www.kcom.edu](http://www.kcom.edu) and click on Research Institute.

*A.T.  
Still Research Institute*

## **TABLE OF CONTENTS**

I. Research Requirement .....	2
A. Elective Research Practicum (ERP) Guidelines.....	3
B. Elective Research Practicum (ERP) Intake Form.....	9
C. Research Mentor Approval Form .....	10
D. Elective Research Practicum (ERP) Evaluator Form.....	11
II. Case Study Requirement .....	12
A. How to Write a Case Study.....	13
B. Instructions for Evaluating Case Studies.....	19
C. Scoring Key: Abstract and Title Page .....	20
D. Scoring Key: Introduction.....	21
E. Scoring Key: History & Review of Systems.....	22
F. Scoring Key: Physical Findings.....	23
G. Scoring Key: Initial Differential Diagnosis and Initial Plan.....	24
H. Scoring Key: Lab, X-Ray, and Diagnostics—Findings .....	25
I. Scoring Key: Final Diagnosis and Management Plan .....	26
J. Scoring Key: Discussion.....	27
K. Scoring Key: References .....	28
L. Scoring Key: Osteopathic Content .....	29
M. Written Case Study Evaluation Form.....	30

## **I. RESEARCH REQUIREMENT**

## A. ELECTIVE RESEARCH PRACTICUM (ERP) GUIDELINES

### Introduction

The Elective Research Practicum (ERP) provides students with the opportunity to earn variable academic credit.

### Components of the ERP

1. Find a mentor.
2. Write a two-page research proposal as outlined above.
3. Conduct study from proposal during four week research experience.
4. Write an abstract and journal article about your project
5. Submit the journal for publication
  - Each student must work with a mentor on this project.
  - The sponsoring department will determine credit for the short-term elective experience in advance, with approval by the Dean.

The practicum is generally conducted during the first two years, or may be done during elective time in the fourth year upon approval by the Regional Dean, Associate Dean for Regional Affairs and Vice President for Medical Affairs and Dean.

This manual provides a quick overview of the requirements, and forms necessary to successfully pass the ERP.

### Table of Contents

#### I. Developing the Research Proposal

- Step 1. Conceiving the Research Question
- Step 2. Background and Significance
- Step 3. Preliminary Work
- Step 4. Planning the study
- Step 5. Approvals
- Step 6. Conduct Study
- Step 7. Dissemination
- Step 8. Policy and Timeline

#### II. Example of a Research Proposal

#### III. Recommended Readings

#### I. Developing the Research Proposal

Why is developing a research proposal important?

- 1) Research proposals organize scientists' thoughts into

the vocabulary required for quickly and concisely conveying research ideas, relevance, and objectives.

- 2) With your research, you are both creating new knowledge and contributing that knowledge to a larger, ongoing conversation in the literature about your subject.
- 3) The development of a concise research proposal can lead to funding for you and your institution, which leads to more knowledge and better patient care.

### Step 1. Conceiving the Research Question

#### 1.1 Statement of the Problem

- What is the problem? (e.g. Ear infections affect one out of four children)
- Why is it a problem?
- For whom is it a problem (target population)?
- How enduring is the problem?
- Is it a long-term problem like complications from diabetes or how to reduce cholesterol?
- Or is it a timely concern like the rashes produced from exposure to hairsprays containing ethyl alcohol?

- 1.2 What is your main research question under consideration? Make sure your question is both focused and answerable:

**Weak Example:** What therapy should be used in the treatment of coronary artery disease?

**Strong Example:** Should chelation therapy be used in the treatment of coronary artery disease?

#### 1.3 Outline the Study Objectives

- What exactly are you going to be doing during your study?
- Why?

**Example:** The objective of this clinical study is to systematically evaluate the effect of 30 biweekly intravenous infusions of Na<sub>2</sub>MgEDTA compared with placebo in a population of patients with obstructive atherosclerotic coronary artery disease manifested by angina pectoris.

- 1.4 Provide a one-sentence study hypothesis that demonstrates what you expect your study to show.

- Even if your study does not end up showing what you expect, *you have created relevant new knowledge.*
- Whether or not your hypothesis is correct is less important than stating an expectation from the beginning.

- Failure to provide a strong hypothesis will lead readers to think your study is a fishing expedition, which weakens its integrity.

**Example:** Magnesium disodium EDTA effectively chelates arterial calcium plaque and will improve the time to moderate angina on a graded multistage exercise treadmill test.

1.5 What are alternative explanation(s) for the expected study outcomes just described?

- Be sure to include alternative explanations for the study outcomes because your conclusions will be stronger.
- You must demonstrate that you have considered all of the different alternatives, or reviewers will criticize you for not completely thinking through your study.

**Example:** Study participants began regimens of low fat diet and exercise. During the study period, medicines and supplements taken concomitantly and/or behavioral changes such as stress reduction begun.

## Step 2. Background and Significance

2.1 Have you conducted a thorough literature search of this topic? The literature search is important for two primary reasons:

- 1) It will show you whether your project is original or not. If someone has already done what you are proposing, you can build upon what they are doing.
- 2) It will show you the gaps of knowledge and research in your field, which will help you further shape your study to produce information that will be meaningful to your colleagues and fellow researchers.

- What literature(s) was reviewed?
- How can the literature(s) be summarized?
- What should the subsection headings be?
- What is your "bottom line" assessment of the literature?

2.2 What is the possible importance and use of your results if, upon completion of the study, they show an outcome which is positive or negative?

## Step 3. Preliminary Work

Because research cannot happen without writing, you need to be keeping track of what you are learning. An effective method of brainstorming is to make an early assessment of your research ideas by making the following headings and completing them.

3.1 At what stage is your project?

- What have you done already?
- What have your colleagues done already (which you will be able to determine from the literature review, as outlined above).

3.2 What pilot data is available?

- What administrative preparations have been made?

3.3 What collaborations are available to help you?

- Do you need statistical consultation?

## Step 4. Planning the study

4.1 Illustrate your proposed research design in a timeline from the first to the last day of data collection.

- Diagram exactly what you will do during the implementation and data collection phases of your study.
- Identify on this timeline, what your subjects will do and when (i.e., measurements, intervention, etc.).
- Identify clearly all subjects (i.e., experimental and control/comparison).
- Develop a key for your timeline, so others can interpret your study plan.

4.2 Define the patient population you wish to study.

- Determine your Inclusion and Exclusion Criteria (i.e., age ranges, gender, race/ethnicity, medical history, prior medical procedures, etc.)

**Example:** Persons will be excluded if they are unwilling or unable to cooperate with study protocol instructions, inability to perform exercise treadmill testing, etc. Study participants will be recruited from the practices of specific chelation therapists as well as cardiologists in a specified geographic region)

**Example:** Greater than 18 years of age, males, who have active but stable coronary vascular disease as evidenced by diagnostic ST segments changes on exercise treadmill testing, etc.

- What are your sample size and reliability?
- Do you have 20 or 200 males and females?
- Are they representative of all races?
- What are the expected demographic characteristics?

4.3 How will you sample your population?

- Where will your subjects come from?
- How will you recruit them?

#### 4.4 How are the groups formed?

#### 4.5 Identify the type of variable for your study design, which can be classified as the following:

- Independent Variable/Dependent Variable (Pravachol and cholesterol levels)
- Grouping Variable/Dependent Variable: no treatment, but subjects are grouped according to a preexisting variable such as age (young or elderly, diseased or nondiseased, male or female)
- Explanatory/Response Variable (VO2 max and number of packs cigarettes/day)
- Predictor/Criterion Variable (number of prenatal visits predict birth weight of baby)

#### 4.6 Measurement Issues

- Identify how you will measure each of your variables.
- Do the measures currently exist? Or will you have to create them?
- Can you locate validity and reliability information on these instruments?
- Do the instruments have costs associated with using them?
- Have you developed a data collection form/spreadsheet?
- Which computer database program will you use to enter data?
- How and where will data be stored?
- What specific methods will data be safeguarded from tampering?
- How will data be guaranteed as confidential or anonymous?

#### 4.7 What are potential study biases?

- Investigator-Inter-examiner bias?

#### 4.8 What are the limitations to generalizability of your study results?

**Example:** Will a study on chelation therapy in patients with active CAD be applicable to patients at risk for but who do not presently have CAD?)

#### 4.9 Review your data thoroughly ensuring accuracy and completeness.

- Identify specific statistical tests/methods.
- Identify statistical tests before collecting data.
- Identify various data characteristics that may influence statistical testing.

In the future, you may want to obtain funding from the National Institutes of Health (NIH). NIH supported research advances our understanding of biological systems, improve the control of disease, and enhance health. NIH-funded research must score well in the following areas:

##### a. SIGNIFICANCE:

- Does your study address an important problem?
- If the aims of your application are achieved, how do they advance scientific knowledge?
- What will be the effect of these studies on the concepts or methods that drive this field?

##### b. APPROACH:

- Are the conceptual framework, design, methods, and analyses adequately developed, well integrated, and appropriate to the aims of the project?
- Do you acknowledge potential problem areas and consider alternative tactics?

##### c. INNOVATION:

- Does your project employ novel concepts, approaches or methods?
- Are the aims original and innovative?
- Does your project challenge existing paradigms or develop new methodologies or technologies?

##### d. INVESTIGATOR:

- Are you appropriately trained and well suited to carry out this work?
- Is the work proposed appropriate to your experience level as the principal investigator and to that of other researchers (if any)?

##### e. ENVIRONMENT:

- Does the scientific environment in which your work will be done contribute to the probability of success?
- Do the proposed experiments take advantage of unique features of the scientific environment or employ useful collaborative arrangements?
- Is there evidence of institutional support?

### Step 5. Institutional Review Board Approvals

#### 5.1 The Proposal/Abstract must be submitted at least 2 months prior to the ERP.

- The KCOM IRB must first approve content then will defer to the IRB of the sponsoring facility all ownership of the research project.

### Step 6. Conduct Study

#### 6.1 Implementation of a study proposal is different from planning one.

- Pay careful attention to data collection procedures, IRB rules and policies, informed consent, timeline points, data entry/audit, and most importantly IRB rules and policies on

protecting human, animal subjects, and biohazard concerns.

- A successful study depends upon attention to detail!

## Step 7. Dissemination

7.1 This is perhaps one of the most important steps in research: dissemination. As someone once said, "If you are not publishing, then research is a hobby!" Publication and presentation is really a duty of the researcher. This activity adds to the knowledge base of your field and allows clinical researchers to improve practice. Dissemination is not easy, but it is not impossible.

7.2 Reflect on your study.

- What is good about the study?
- What are the limitations?
- What are the potential problems?

7.3 Identify the professional journal to which you will submit your manuscript.

- The following journals employ the protocol that you should follow as you prepare your manuscript for submission (hint: Each journal should/usually contains a section called "Instructions for Authors"). Examples include:

*Family Medicine Journal*

*Lancet*

*Research on Aging*

*Clinical Obstetrics and Gynecology*

*JAOA*

*New England Journal of Medicine*

*Other peer-reviewed journals*

- Each journal may vary in their requirements.
- You must decide where you want to submit your manuscript and follow those requirements.
- Review Instructions for Authors database (available online at <http://www.mco.edu/lib/instr/libinsta.html>) before you begin writing your manuscript, or see the most current issue of that journal.
- Read the instructions several times before sitting down to write.
- Contact an editor at the journal to be sure your research topic is appropriate for their readers.

7.4 Identify a professional association to which you will submit for presentation.

- Pay attention to "Calls for Abstracts".
- Deadlines are usually well in advance of the conference.

Note:

- Do not submit materials you create while developing your Research Plan.
- You only need to submit a two-page Research Plan that is explained in the previous section.
- Developing the Research Plan is intended only as an introduction to the types of question you must ask before attempting research.
- Working through the previous section will make your Research Plan stronger.

## Policy and Timeline

### Preparing the ERP Packet for Submission

1. Download this manual and the necessary forms that will be used to review, approve, and evaluate your submitted research proposal and manuscript.
2. Identify a mentor with whom you will conduct the ERP. From this mentor, you will need a completed and signed Mentor Approval Form and a copy of his/her vita.
3. With guidance from your mentor, write a two-page Research Proposal using the outline provided in this manual.
  - Additional assistance (after consulting with your mentor) with writing the proposal is available from the Research Institute.
  - The Research Institute staff will not write the Research Proposal, but will provide critical evaluation of the proposed hypotheses, methodology, and implementation of the research proposal.
  - Please call to make arrangements at (660) 626-2397.
  - After completing the Research Proposal, print one hard copy each for you, your mentor, and two copies for Regional Affairs.
4. Complete and sign the ERP Intake Form
5. Mail the
  - ☐ ERP Intake Form
  - ☐ Research Mentor Approval Form
  - ☐ ERP Evaluator Form
  - ☐ Two copies of the Research Proposal
  - ☐ Mentor's Curriculum Vita
  - ☐ Your Curriculum Vita

To: G. Barry Robbins, Jr., DO  
Associate Dean for Regional Affairs  
Office of Academic Affairs  
800 West Jefferson Street  
Kirksville, Missouri 63501



### ERP Packet Approval Process

The approval process for the Research Proposal will consist of the following:

1. Written confirmation ERP Packet receipt from Regional Affairs Office.
2. Assignment of the ERP Packet to an Internal Evaluator.
  - This evaluator is pre-selected by the Regional Affairs Office to ensure that only quality and methodologically sound research is conducted.
  - An evaluator could be a faculty member (basic or clinical science), research support staff, or research assistant.
  - Evaluators are given two weeks to review your two-page research proposal.
3. Written confirmation of Approval or Disapproval of your Research Proposal is sent to you and your mentor.
  - If your ERP is approved, then begin your research with your mentor.
  - If your ERP is disapproved, then a copy of the Evaluator's remarks will be sent with your letter.
  - If your ERP is disapproved, you will be able to revise and resubmit if time allows.

### The Four Week Research Experience

#### **Dissemination**

1. Upon completion of the research proposal (subject recruitment, data collection, data analysis, and interpretation), prepare the manuscript for dissemination of research results.
2. With the assistance of your mentor, write your article. (See the Guidelines for Writing a Case Study in the next section of this manual not only for writing tips, but also a description of the headings and content required by standard articles).
3. Submit the manuscript to the peer-reviewed journal per the instructions on style, copies, and format found in the various journals under Instructions for Authors.
  - **Certified postal receipt will be required for # 4 below.**
4. You will receive confirmation that your manuscript has been received from the editor for that peer-reviewed journal.
5. Send one copy of the confirmation letter (or copy of the signed certified postal receipt – see # 2 above) from the editor and two copies of the submitted

manuscript to the Regional Affairs Dean's Office at the address indicated previously.

6. The Regional Affairs office will provide you written confirmation within two weeks that you have successfully passed your ERP or if additional information, etc. is needed.

### II. Example of a Research Proposal

Working through the Steps in Development of the Research Proposal, will allow you to provide the Regional Affairs Office with the appropriate material to determine whether to approve your study. Study proposals that are well-conceived and planned thoroughly will be more likely to receive approval and be implemented more easily. The two-page Research Proposal should be prepared in the following manner:

Include the following elements in a two-page, single-spaced abstract with headings flush left. Place your title and name at the top center. Examples of each element are provided.

#### **Example of a Two-Page Research Proposal<sup>2</sup>**

##### **Your Name:**

**Title:** Effects of Hormone Treatment after Menopause on Lipoprotein (a) (Lp[a])

**Research Question:** What are the effects of treatment with estrogen plus progestin (compared with placebo) on Lp(a) levels in postmenopausal women?

**Hypothesis:** There will be a greater decrease in Lp (a) levels in the hormone-treated group than in the placebo group.

##### **Background and Significance**

1. Epidemiologic studies suggest that hormone treatment after menopause may help prevent coronary heart disease, the largest cause of death in women.
2. Lp(a) is an understudied lipoprotein that has been found to be an independent risk factor for coronary disease in several studies.
3. Among conventional lipid-lowering drugs, only nicotinic acid in this disease lowers Lp(a) levels; however, previous studies have suggested that hormone treatment may have this effect.
4. There is a need to confirm this finding for the estrogen plus progestin treatment that is now commonly used after menopause, and to extend it to women with existing coronary disease.

**Design:** Randomized controlled trial with one year of follow-up.



**Subjects:** Inclusion Criteria are postmenopausal women with documented coronary disease (evidence for prior myocardial infarction or coronary artery surgery, or 50% obstruction on angiography). Recruitment will consist of a consecutive sample of all women who qualify in 20 clinical centers, recruited cardiology clinics and by mailings and advertisements.

**Variables:** Predictor: Randomization to a daily tablet containing conjugated equine estrogen (0.65 mg) and medroxyprogesterone acetate (2.5 mg), or to a placebo identical in appearance.

**Outcome:** Change in serum level of Lp (a) between baseline and 1 year after randomization, measured immunochemically with a sandwich ELISA assay that uses a monoclonal antibody to apo (a) as the capture antibody.

**Sample Size, Power, and Data Analysis:** The number of women in the existing HERS trial available for this ancillary study was 2,763. This allows detection of a reduction in Lp (a) of 2 mg/dL with a power of 90%, using a t-test and two-sided significance level of .05.

**Resources Available to Conduct this Research:** Identify the resource available to you where your research will be conducted. Include personnel, equipment, funding, and services. Consultation with your mentor for this section is imperative!

### III. Recommended Readings

<sup>1</sup>Essex-Sorlie, D. (1995). Medical biostatistics and epidemiology. Norwalk, CT: Lange.

<sup>2</sup>Hulley, S. B., Cummings, S. R., Browner, W. S., Grady, D., Hearst, N., & Newman, T. (2002). Designing clinical research. New York, NY: Lippincott, Williams, and Williams, p. 15.

Examples (chelation therapy, p.4) provided by the National Center for Complementary and Alternative Medicine, located at <http://www.nccam.nih.gov/>

## ERP FORMS

## B. ELECTIVE RESEARCH PRACTICUM (ERP) INTAKE FORM

**Instructions:** Complete the following information and submit with your ERP Packet as the first page.

(Please print or type)

Name of Student: \_\_\_\_\_

Address: \_\_\_\_\_

Phone Number: \_\_\_\_\_ E-mail: \_\_\_\_\_ Class Year: \_\_\_\_\_

-----  
**-Do not write below this line-**  
-----

**1. Date ERP Packet was received:** \_\_\_\_\_  
Date Initials

**2. Student included the following:**

- ☐ Research Mentor Approval Form (signed)
- ☐ 2 Copies of Research Proposal
- ☐ ERP Evaluator Form
- ☐ Mentor's Curriculum Vita
- ☐ Personal Curriculum Vita

**3. Evaluator**

- a. Name of ERP Assigned Evaluator: \_\_\_\_\_
- b. Evaluator sent Packet: \_\_\_\_\_
- c. Date Evaluator Accepted: \_\_\_\_\_
- d. Deadline to Return Evaluated Research Proposal (2 weeks from receipt date): \_\_\_\_\_
- e. Evaluator returned Research Proposal Evaluator Form: \_\_\_\_\_  
Date
- f. Research Proposal was: Approved ☐ Disapproved ☐
- g. Written confirmation sent to student: \_\_\_\_\_

**4. Manuscript**

- a. Date Manuscript received: \_\_\_\_\_
- b. Date written confirmation from Journal Editor received: \_\_\_\_\_
- c. Date of certified postal receipt confirmation: \_\_\_\_\_

**5. ERP Status**

- a. This student has: Failed ☐ Passed the ERP ☐ \_\_\_\_\_  
Date Initials
- b. Letter indicating pass or fail status of ERP sent: \_\_\_\_\_  
Date Initials

### C. RESEARCH MENTOR APPROVAL FORM

The purpose of this form is for you to provide written confirmation that you agree to act as a research mentor for the following student for the Elective Research Practicum (ERP) at the A.T. Still University of Health Sciences, Kirksville College of Osteopathic Medicine.

Name of Student: \_\_\_\_\_

Title of Research Proposal: \_\_\_\_\_

---

Please complete the information below and return to the student with a copy of your vitae so that they may submit it with their Research Proposal.

Name of Mentor: \_\_\_\_\_

Title: \_\_\_\_\_

Affiliation: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone Number: \_\_\_\_\_ E-mail: \_\_\_\_\_

I agree to act as a research mentor for \_\_\_\_\_ (student's name) so that they may complete the requirements for the Elective Research Practicum (ERP) at Kirksville College of Osteopathic Medicine. I have read and approved the Research Proposal and will assist this student in implementing their project at \_\_\_\_\_ (location where research will be conducted).

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

If you have any questions or concerns about this process, please do not hesitate to contact:

G. Barry Robbins, Jr., DO  
Associate Dean for Regional Affairs  
Office of Academic Affairs  
800 West Jefferson Street  
Kirksville, Missouri 63501  
(660) 626-2273  
grobbsins@kcom.edu

## D. ELECTIVE RESEARCH PRACTICUM EVALUATOR FORM

Name of Student: \_\_\_\_\_

Title of Research Proposal: \_\_\_\_\_

\_\_\_\_\_

**-do not write below this line-**

-----

Name of Evaluator: \_\_\_\_\_ Phone: \_\_\_\_\_

Address: \_\_\_\_\_

\_\_\_\_\_ E-mail: \_\_\_\_\_

Title: \_\_\_\_\_

Affiliation: \_\_\_\_\_

**Please score the Research Proposal with a 0 (no), 1 (somewhat, but needs improvement), or 2 (yes):**

**The manuscript provides evidence of the following:**

\_\_\_\_ A clear justification for conducting the study based upon previous findings in the literature.

\_\_\_\_ The study hypothesis is well stated and includes pertinent variables.

\_\_\_\_ The study population is well justified for this problem.

\_\_\_\_ The sample size is adequate.

\_\_\_\_ Study objectives are clearly stated.

\_\_\_\_ Confounding variables are considered in the discussion.

\_\_\_\_ Test and measurement for all variables are appropriate.

\_\_\_\_ Data analyses are appropriate.

\_\_\_\_ Limitations of the study are discussed.

\_\_\_\_ Clinical relevance of the project is clearly stated.

\_\_\_\_ **Total Score out of a possible 20 points (less than 14 points indicates disapproval)**

Based upon my evaluation, I recommend that this Research Proposal be

- ☐ Approved (14-20 points)
- ☐ Disapproved (0-13 points)

\_\_\_\_\_

Signature

Date

**Please provide comments on the back of this form.**

## **II. CASE STUDY REQUIREMENT**

## Table of Contents

### A. How To Write A Case Study

- Step 1. Prologue
- Step 2. Getting Started
- Step 3. Writing as Critical Thinking
- Step 4. What's the Point?
- Step 5. Argument
- Step 6. Audience
- Step 7. Pre-Writing and Brainstorming

### B. The Structure of Your Case Study

- Step 1. Abstract
- Step 2. Introduction
- Step 3. History
- Step 4. Review of Systems
- Step 5. Discussion
- Step 6. References

### C. Your Second Reader

### D. The Revision

### E. Recommended Readings

### A. How to Write A Case Study

#### 1. Prologue

A case study differs from a research article in that the case study attempts to use one patient's story to answer larger, more global questions for similar patients elsewhere. Because the case study adopts a narrative style and tells a story, I shall mimic its form here, and I will be using the first person to address my audience.

#### 2. Getting Started

**2.1 The bad news:** There are two things nobody wants to hear about writing:

- 1) Writing is hard.
- 2) Writing takes time.

I'm not sure which is worse, but both are true, so you might as well resign yourself to them right now and get it over with.

**2.2 The good news:** The above truisms hold for everyone, even the most seasoned writers. And there are some tried and true ways to make the writing easier.

#### 3. Writing as Critical Thinking

**3.1** A common misconception that writers have is that

they know or should know what they are going to say before they begin. In order for this to be true, writers would need to memorize ten to twenty pages' worth of material and then spew them onto the pages. This is not possible.

Your life as a researcher, student, and writer will be more pleasant for you if you learn now that writing is a *form of thinking*. Writing helps you organize your thoughts, not vice versa.

#### 3.2 "Aha!"

Often, when you are writing, you will have an "aha!" experience in which you discover that you thought or knew something you didn't realize you thought or knew. Writing has helped you to think of it. Putting the words on the page has led you to a discovery that wouldn't have been possible merely through thinking or speaking.

The "aha!" writing experience is very similar to what happens to athletes once they are warmed up during a run: they enter a zone in which they feel they can run forever. Often, though, this happens *only after* the first couple of miles.

For writers, the "aha!" moment happens after a few pages. However, for the writer, unlike the athlete, there is a strong temptation to ignore the new direction the "aha!" discovery has brought because it often renders the first few pages of writing obsolete.

It is important, therefore, for you to accept the fact right now that unless you are a highly seasoned writer, and have been writing for perhaps fifty years, you are going to have to view the first few pages of everything you write as a warm -up lap whose only function is to get you to the "aha!" experience and which you will later recycle. Hence, writing takes time, and paper.

It is crucial not to ignore the "aha!" portion of your writing: This is your strongest writing and thinking. You may be halfway through your case study and have an inspiration that requires you to re-write the entire study. It is highly tempting to ignore that inspiration, then, in hopes of not having to re-write. However, the good news is that when you are inspired, when you have warmed up, the revision will happen very quickly and almost on its own. It will not require the time or energy of the first draft, and it will have energy, innovation, and strong thinking in its favor. It is the point of writing.



#### 4. What's the Point?

4.1 Whenever busy people such as your examiners read anything, they are likely to ask, "Why am I reading this?"

- Why should I read this?
- What is the point?"

4.2 The answer examiners have after reading your case study should not be that they have to read this because the project was assigned. And your answer to the question, 'Why are you writing this?' better not be 'Because I had to in order to pass.'

4.2 One of the most significant challenges any scholar, researcher, educator, writer must overcome is the relevancy question, the answer to the question, "So What?"

- Why are you reading this manual right now?  
Because you have to write a case study and you want to pass the first time.
- Why am I writing this manual right now?  
Because I am an experienced writer, have taught writing at the university level, and have figured out a few things about solving the relevancy problem.

4.4 If you cannot figure out a relevant reason for you to be writing the case study, then you might as well stop wasting your own time and that of your reader.

4.5 If you cannot figure out a relevant reason for you to be writing the case study, a reason outside of, "I have to fulfill this assignment," or "I want to get this published," then you will not pass. You have not thought about this enough. You have not written about this enough. Everyone can write well about things they have thought a lot about. So, think about it a lot:

- Why is this case interesting to you?
- Why did you choose to write about it?
- Was there a procedure that was new?
- Did something go wrong?
- Was a relative particularly helpful or troublesome?
- Did someone make a mistake?
- Did you learn something new about a disease, procedure, disorder?
- Was it heartbreaking?
- Did it make you angry?

#### 5. Argument

5.1 Another concept you must understand before you begin writing is that anytime you are writing, you are making an argument. Everything is an argument. If you learn the components of an argument, your case

will be successful. A commonly used argument is known as the Toulmin Argument, which contains the following components:

**Claim:** The claim is the statement you wish to make.

**Example:** "Don't eat the mushrooms!"

**Reason:** The logic behind the claim.

**Example:** "Because they are poisonous!"

**Warrant:** The warrant answers the question of "So What?" that is posed to the reason. It is often implied and often obvious, but arguments win or fail dependent on whether people accept the warrant.

**Example:** "Eating poisonous mushrooms will make you sick!"

**Evidence:** Supports the reason.

**Example:** Many mushrooms are poisonous, and unless you know how to identify them, you are at risk.

5.2 Some arguments are more successful than others. Here is an example of a weak argument:

**Claim:** Don't eat that chocolate!

**Reason:** It will make you fat!

**Warrant:** Being fat is means you will have to replace your clothes at great expense!

**Evidence:** Chocolate is high in fat and calories.

However, for most people, the taste and small amount of chocolate they will eat make that argument weak. Also, the amount of weight you'd need to gain to make that warrant true takes enough time not to be an immediate deterrent. There are problems with the warrant and, the argument is easy to take apart.

5.3 Here is a stronger argument:

**Claim:** Take your purse with you when you go to the bathroom.

**Reason:** If you leave it at the table, it might get stolen.

**Warrant:** If someone steals your purse, you have to replace your credit cards, driver's license, checkbook, cellphone, prescriptions, passport, and whatever else you have in your purse. You may never replace the cash.

**Evidence:** Most people whose purses are stolen have to replace these items.

For most people, this warrant is more compelling than the one for not eating chocolate, and more likely to make them listen to your claim.

5.4 In your writing, you need to figure out your own argument.

- What is your claim?

- What are your reasons?
- So What?
- What is your evidence?
- Is it fact-based, anecdotal, or emotional?

5.5 Sometimes, before you can answer all of these questions you must first think of who will be reading your case study.

## 6. Audience

6.1 Again, it might seem obvious who your audience is: the evaluator of your case study.

- Again, this is not good enough.
- For one thing, do you know this person?
- What do you know about them?
- And is this the only person ever who will be reading your case study?

6.2 Instead of focusing on your reviewer, think of a specific journal you would like to submit your case study to.

- Would you like to share your observations with hospital administrators so a policy can be changed?
- Would you like to share new medical information or a new procedure with other doctors?
- Are you interested in sharing something with other student doctors?
- Or is your angle perhaps the patients themselves or their relatives?
- If you focus your case study and your argument on a specific audience, then you are halfway there.

6.3 Your audience will give your writing a focus and an edge. Knowing who your audience is helps you rhetorically. Most pieces of writing attempt one of two purposes:

- a. to make the audience see something differently
- b. to make the audience act on the information in a specific way
- c. What are you hoping your case study will accomplish? You will be essentially arguing for one of the above two things to happen.

## 7. Pre-Writing and Brainstorming

7.1 You are finally ready to begin writing. This will be your warm up lap, the writing that will help you get where you need to go, so view it that without planning, necessarily, to use it in your final product.

7.2 The first thing you are going to do is write for 30 minutes without stopping and think of every possible angle of your case study, writing without

editing. Then, you are going to walk away from this piece for a few hours.

7.3 You will do two more pre-writes of 30 minutes each during a 48-hour period. These pre-writes are essential to producing a good case study. It is here that you will discover what you think is interesting about it, who you are trying to reach, and it is here that you will remember little details that might otherwise have escaped you.

- After you have finished your third pre-write and left it for an hour or so, examine all three of your pre-writes and see what you find most interesting in all of them.
- What have you repeated?
- What seems to be the most important theme or detail?
- Who seems to be the most logical audience for this case study?
- What can you argue for?

7.4 Now you are ready to take your three pre-writes and begin writing a rough draft. And I do mean rough. Again, you are not thinking in terms of revision. You are thinking on paper and generating material. This portion of your case study is the case itself. It is here that you should begin.

## B. The Structure of Your Case Study

### 1. The Abstract

1.1 The abstract must be 200 words **or less**. Such a writing task is among the most difficult to achieve. **I highly recommend that you wait until you have written the rest of your case study to write the abstract.**

- The abstract will be a brief synthesis of the entire project, the teaser, which will help future researchers determine immediately whether your case study can be useful.
- It should also be interesting enough to warrant a reading of the entire study.
- It is here that you will first raise the issue of your argument.
- Your abstract and your introduction may end up being very similar.

1.2 I am going to state here and emphasize later that your writing, although it is academic and medical in nature, has a responsibility to be both *interesting and* important.

### 2. Introduction

2.1 Again, brevity is important. **Less than 200 words.**

And again, this should be one of the last portions of your case study that you write. Nobody will know that you wrote it last, and when you think about it, you can introduce best those people you know the best; how can you write an introduction for a paper you haven't written yet? You don't know yet how it will turn out.

- This is a brief introduction to the case.
- Includes the highlights of the case.
- **Save the literature review for the discussion section!**
- Establish your audience and address your relevancy (so what, why am I reading this?) questions here.
- Establish your persuasive purpose: the reader should either see things differently or be prepared to do something as a result of reading this. Alert audience to your intended result now.
- You cannot wait until the discussion section to bring these issues into focus.

## 2.2 Sample Introduction.

"AD, a Caucasian female age 26, presented at C Hospital at 37 weeks pregnant with ruptured membranes in 1993. She would labor for 24 hours, having contractions only after Pitocin was administered, and dilate only to 2 centimeters. A C-Section was then performed. The baby was born with Group Strep B that went undetected for 16 hours, resulting in baby's transfer via ambulance to a NICU facility at another hospital, separating mother and child, interrupting breast-feeding, and interfering with recovery of both mother and child. Should pregnant women with ruptured membranes labor in the hospital where they are more likely to become infected with bacteria harmful to their unborn children? Or can certified nurse midwives administer care more effectively for these women in the home?"

## 2.3 Commentary on Sample Introduction

- Notice that immediately the focus of the case study is established: do hospitals or home environments give the best care for mothers with ruptured membranes?
- Also, some degree of suspense has been created: we do not know at this point whether or not the child lived or died.

Immediately, there is both relevancy and interest. The argument is being established and will be continued as the case study continues, with evidence given in the discussion section where the strongest part of the argument will be given.

The introduction is also free of jargon and fewer than

200 words.

## 3. Case

- 3.1 You will notice on all of the directions for case studies that case studies are to be written in **narrative** form, not lists. What is narrative form? It is the form of a story. You are telling a patient's story. This manual is written in narrative form: I am trying, through addressing you in first person and conversational language, to engage you in a conversation about how to write your case study.
- 3.2 You are going to be engaging your reader in a conversation about your case. This means that you need to make us care about your patient. Who is your patient as a person? Your medical history will help establish this your patient as a person also.

## 4. History

### 4.1 Sample History.

"AD, 26, Caucasian, is a first time mother with no prior pregnancies, no prior hospitalizations. She has gained 50 pounds during the course of her pregnancy. No edema present. The women in her family have a history of Csections: her mother, grandmother, aunt, and sister all gave birth via C-section. AD drank and smoked socially before the pregnancy but not during. Regular doctor visits throughout pregnancy. AD has a Master's Degree in Social Work and has been married to BD for three years. This two-income, middle-class couple resides in a three-bedroom home in the suburbs. AD has a history of taking Zoloft for depression before the pregnancy. No allergies."

### 4.2 Commentary on Sample History.

Without medical jargon, you have painted a picture of who this patient is. We know that she is educated, married, and has had proper medical care. All of this suggests that had she had Group Strep B before her membranes ruptured, her doctor may have caught it (though in 1993, pregnant women were not necessarily routinely tested for Group Strep B).

- 4.3 The point is, the structure of the case study is there to help you **show** things about your patients so that you do not have to make editorial comments about them (such as the ones I made above).

## 5. Review of Systems

- 5.1 There is a great temptation to reveal everything you have learned so far in medical school here by making this section jam-packed with jargon. Fight that urge. Make your language clear. If you say EKG, spell it out first, and say what it is for. *Your*

*reviewer is not necessarily your only or your most important reader. Make it reader-friendly for many possible audiences.*

5.2 Remember that this is supposed to be narrative, so walk us through the examination.

## 6. Discussion

Your discussion section is the one in which you will be the most political, the most impassioned, and the one in which you will make your strong argument (which you have already raised in your introduction and your abstract). You will use the preceding case and the literature review to give evidence for your argument.

## 7. References

Check your style manual, make sure your I's are dotted and your T's are crossed.

## C. Your Second Reader

Now that you have written every section of your case study, it is time to have a trusted friend read it for you and make comments.

- ? Is it interesting?
- ? Does it make sense?
- ? Does it have too much jargon?
- ? Does it flow? (Does one section acknowledge that there was a section before it and that there will be one after it?)
- ? Is the case study in the right order?
- ? Does every section contain the right information and the right amount?

## D. The Revision

Depending on how much pre-writing you have done, you will now need to revise. Print out your case study. Let it sit for a day. Then, read it through once without your pen. Finally, read it once again and write on it. Rewrite it again, and then you are done. The important thing to do is to realize that because it takes time, you must pace yourself. Give yourself time to think about your case, to brainstorm and to pre-write, and then to write and revise. If you give yourself time between drafts, you will be able to see more clearly the revisions to make and how to make your case study a significant contribution to the literature about osteopathic medicine.

## E. Recommended Reading

Lunsford, Andrea and Ruskiewics, John. 1998. *Everything's An Argument*. New York, NY. Bedford St. Martin's.

(Examples found on p. 15 were first published in the above textbook).

## B. INSTRUCTIONS FOR SCORING CASE STUDIES

### The Holistic Approach

Research in composition studies shows that the holistic approach to scoring any piece of student writing is the most accurate, yielding the most agreement among groups of graders in any setting.

Holistic grading simply means that you examine the piece of writing as a whole, subjectively, before you make objective comments. In order to grade holistically, first read the entire case study from start to finish without a pen in hand. Trust your instincts as to the overall quality of the work. After your initial reading, you will mark a P or an F for Passing or Failing on the subjective portion of your scoring guide.

### The Scoring Key

The scoring key is designed to provide you quickly and easily with a vocabulary for explaining the subjective score to the students. You have a scoring key for each section of the case study (10 total), which are labeled and included in the back of this manual. You will become so familiar with the elements of the scoring key after you have marked it for the **Abstract** and the **Introduction** that using it will take no time at all. Note the scoring key with 1 to 5 rankings correlates with the quality of the case study (i.e., the higher the scores marked, the better quality case study).

For example, you might have the following boxes marked for the **Discussion Section** of the Case Study.

#### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ☒ Content appropriate to headings.
- ☒ Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

#### 4= *Good representation in content and presentation in quality*

- ☒ Abstract and case study are interesting and relevant
- ☒ Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ☒ Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

SCORE FOR THIS SECTION: 4

### The Written Case Study Evaluation Form

After you have marked the criteria for each section of the case study, you can simply review the sheets, and one such as the example above would indicate a score of 4 or possibly 3.5, depending on how strong you feel the writing was, for the **Discussion Section**. You will write the score for each section on the bottom of each scoring key, as in the above example. Then, you simply write the scores for each section on the evaluation form.

For example, your evaluation form would then look like this:

#### 8. DISCUSSION

Discussion was a concise review of the case, current literature, and how case differed with or agreed with literature.

4

The student will immediately be able to determine, from the vocabulary I have provided you on the scoring keys, the reasoning for the score, and you will not have to make comments on the papers.



## C. SCORING KEY: ABSTRACT AND TITLE PAGE

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## D. SCORING KEY: INTRODUCTION

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:



## E. SCORING KEY: HISTORY & REVIEW OF SYSTEMS

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## F. SCORING KEY: PHYSICAL FINDINGS

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## G. SCORING KEY: INITIAL DIFFERENTIAL DIAGNOSIS AND INITIAL PLAN

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## H. SCORING KEY: LAB, X-RAY, AND DIAGNOSTICS-- FINDINGS

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## I. SCORING KEY: FINAL DIAGNOSIS AND MANAGEMENT PLAN

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## J. SCORING KEY: DISCUSSION

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## K. SCORING KEY: REFERENCES

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:



## L. SCORING KEY: OSTEOPATHIC CONTENT

### 1= *Absent or poor in content and presentation*

- ? Incomplete or inappropriate response to the writing task
- ? Text lacks proper organizational components (sections are either missing or in the wrong order; information meant for one section is in another)
- ? Usage and syntactical errors so severe that meaning is obscured
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading

### 2= *Basic content included; presentation poor*

- ? Case study is not relevant
- ? An accumulation of errors in grammar, diction, and sentence structure, which impede reading
- ? Little or inappropriate detail to support ideas
- ? Content inappropriate to heading (i.e. material from introduction belongs in discussion, etc.)
- ? The point of the discussion section does not match introduction, abstract, title, etc.
- ? List-like and formulaic writing rather than narrative style

### 3= *Satisfactory content and presentation without expansion*

- ? Addresses relevancy question
- ? Not interesting, but adequate response
- ? Appropriate headings and organization
- ? Content appropriate to headings.
- ? Some attention to audience
- ? Some rhetorical (persuasive) planning: get audience to see something differently or to act
- ? Formulaic organization which does not necessarily advance the argument being made

### 4= *Good representation in content and presentation in quality*

- ? Abstract and case study are interesting and relevant
- ? Effective response to the writing task
- ? Skill in using language
- ? Clear rhetorical planning: audience will see something differently or be persuaded to act
- ? Development with appropriate support and integration of sources
- ? Clear attention to needs of audience
- ? Critical thinking clearly demonstrated—clear understanding of the task at hand and how to address it

### 5= *Excellent representation; publishable quality*

- ? Abstract and case study interesting and contribute valuable new knowledge to the field
- ? Consistent skill in using language
- ? Synthesis of ideas using a variety of sources
- ? Full development with appropriate support from the sources
- ? Consistent attention to the needs of readers
- ? Audience sees author's point (learns something new) or is persuaded to act
- ? Clear and correct organization of materials in appropriate sections
- ? Strong discussion section and conclusion

SCORE FOR THIS SECTION: \_\_\_\_\_

COMMENTS:

## M. WRITTEN CASE STUDY EVALUATION FORM

### I. SUBJECTIVE SCORE AFTER INITIAL READING:

(Mark a P for Passing or an F for Failing)

---

### II. OBJECTIVE SCORE AFTER CLOSE READING:

(Use scoring key on following page, apply to each section of the case study)

---

#### 1. ABSTRACT and TITLE PAGE:

Abstract was 200 words or less; interesting summary of facts and importance of case invited the reading of the article.

---

#### 2. INTRODUCTION:

Less than 200 words and reflects an introduction to the case and important highlights of presenting case.

---

#### 3. HISTORY & REVIEW OF SYSTEMS:

History is concise review of patient's medical and psychosocial history.

---

#### 4. PHYSICAL FINDINGS:

Physical is a concise review of positive findings and pertinent negatives only.

---

#### 5. INITIAL DIFFERENTIAL DIAGNOSIS AND INITIAL PLAN:

Well thought-out problem list and differential diagnosis for the problems. Demonstrates an understanding of the case by describing further diagnostic plan and how this would contribute to diagnosis. May describe management of emergent conditions.

---

#### 6. LAB, X-RAY, and DIAGNOSTICS-findings:

The student describes the pertinent findings only and how they relate to the differential diagnosis of the case.

---

#### 7. FINAL DIAGNOSIS AND MANAGEMENT PLAN:

A final diagnosis and a concise review of how this diagnosis was reached. A management plan along with a brief description of why each portion of the plan was chosen. Includes the response to the treatment and any complications that occurred.

---

#### 8. DISCUSSION:

Discussion was a concise review of the case, current literature, and how case differed with or agreed with literature.

---

#### 9. REFERENCES:

References were well-respected, current texts and journal articles, written in an appropriate format.

---

#### 10. OSTEOPATHIC CONTENT:

Included all osteopathic findings and OMM indications. Described all OMM treatment given or, when not given, how patient might have benefited if OMM had been used.

---

**TOTAL SCORE:**

---

---

15 points will be subtracted for each week the paper is late. Passing is 70 points. The paper is worth a total of 100 points (2 points per item, or x2). The final grade will be recorded on your transcript. Students with a score of less than 70 percent will be required to repeat the Written Case Study (total of 12 contact hours). The student will be required to pay tuition for the repeated case study.

