

# CASE TEACHING NOTES *for* “A Case of Pharyngitis”

by

**David F. Dean**

Department of Biology  
Spring Hill College



---

## INTRODUCTION

The first line of defense of the body against infectious disease is localized and nonspecific. The single most important aspect of nonspecific body defense is inflammation. This case utilizes one of the most common complaints of patients visiting their physicians, a sore throat, to illustrate multiple aspects of the inflammatory process as well as other components of nonspecific body defense.

### *Objectives*

Upon completion of the case, students will have learned the following:

- The mechanism by which the changes seen at a site of inflammation relate to alterations in small blood vessels.
- The role played by neutrophils in the resolution of a bacterial infection.
- The structure and function of lymph nodes and tonsils.
- The beneficial effects of fever.
- The mechanism by which the number of white blood cells in the circulation can be increased during an infection.

This case study has been used in a sophomore-level course in human anatomy and physiology taught to pre-med and nursing students.

## CLASSROOM MANAGEMENT

Students receive a printed copy of the case study after completion of the lectures covering the unit on the lymphatic system and immunity and one week prior to the class in which the case will be discussed. Students are asked to review the concepts covered in the unit that are pertinent to the case and then answer the questions to the best of their ability. Classes range in size from 20 to 30 students. Although I don't arrange them in groups, I encourage them to work together in preparing the case. Reference materials are available on reserve in the college library, but most students use the Internet as their primary source for answers to the questions.

Students are not required to turn in written answers to the questions, but, rather, are called upon at random to answer the questions during the class discussion. Often, the discussion of the answer to each question goes beyond the scope of the question. Interestingly, students who tend to not ask or answer questions during the lecture portion of the course, are often the most participatory when discussing the case studies. Also, I have never failed to learn something new about a case from the students, regardless of how many times I have used a particular case study.

Questions concerning the material covered in the case study are included in the next regularly scheduled examination. The questions are in the form of short- answer essay, requiring a short paragraph to answer. Typically three case studies will be covered on each 100 point exam, with one question per case valued at 5 points each. Though they are not verbatim, the questions follow very closely those that the students were required to answer prior to the class discussion.

### ***Answer Key***

Answers to the questions posed in the case study are provided in a separate answer key to the case. Those answers are password-protected. To access the answers for this case, go to **the key**. You will be prompted for a username and password. If you have not yet registered with us, you can see whether you are eligible for an account by reviewing our **password policy** and then apply online or write to [answerkey@sciencecases.org](mailto:answerkey@sciencecases.org).

## **REFERENCES**

### ***Print***

Martini, F.H., 2006. *Fundamentals of Anatomy & Physiology* (7<sup>th</sup> ed.). San Francisco: Benjamin Cummings.

### ***Internet***

Acute Bacterial Tonsilitis; Essentials of Clinical Immunology

<http://www.immunologyclinic.com/case.asp?chap=02&case=4>

Pharyngitis (Sore Throat); Family Practice Notebook

<http://www.fpnotebook.com/ENT111.htm>

UC Study on Sore Throat Management in Children Advocates Throat Cultures; Academic Health Center of the University of Cincinnati

<http://healthnews.uc.edu/news/?/223/>

**Acknowledgements:** This case was developed with support from the National Science Foundation under CCLI Award #0341279. Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the National Science Foundation.

Image Credit: Detail of *The Sick Child* by Gabriel Metsu, c. 1660. The Rijksmuseum, Amsterdam.

Copyright © 2006 by the National Center for Case Study Teaching in Science.

Originally published 09/08/06 at [http://www.sciencecases.org/pharyngitis/pharyngitis\\_notes.asp](http://www.sciencecases.org/pharyngitis/pharyngitis_notes.asp)

Please see our **usage guidelines**, which outline our policy concerning permissible reproduction of this work.