



CASE TEACHING NOTES for "Shark Attack!"

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INTRODUCTION / BACKGROUND

This case is intended for use in the lab of a freshman- or sophomore-level introductory human anatomy course that takes a regional approach. Several similar clinical cases are used in conjunction with each anatomical region as it is dissected. Students research and hand in written answers to the questions associated with each case. This particular case study was used during the laboratory section on the upper extremity. After researching the case, students discussed the answers to the questions, but without their notes.

The primary objective of this case is to let the students see how their knowledge of the upper extremity may be put to use in a real-world situation and to integrate their study of the anatomy of the upper arm. Students will need to use their anatomy text, atlas, and classroom information to study the relationship between the structures located in the upper arm. They will also have to explain how the structures in this portion of the arm affect function of the forearm and hand.

Objectives:

After completion of the case, the student should be able to:

- Identify the bone, muscles, blood vessels, and nerves associated with a cross section of the arm (the area between the elbow and shoulder).
- Explain the action of the associated muscles, blood vessels, and nerves.
- Identify any movements within the arm, forearm, wrist, and fingers that would be affected.
- Explain how these movements might be altered after the arm reattachment.
- Define collateral circulation and identify the regions of collateral circulation that would be found in the upper extremity.
- Explain how collateral circulation might be helpful to restoring circulation to the bone that had been severed.
- Identify the location and specific vessels associated with collateral circulation in this area.
- Identify specific types of activities that might cause Jim problems after recovery.
- Explain the effects that age might have on the reattachment of an arm.

CLASSROOM MANAGEMENT

Study of the upper extremity requires four weeks of laboratory sessions. Lab consists of between 15 to 18 students in each lab section. This case was presented to each of the lab sections during the first week of the upper extremity dissection. Each student had approximately three weeks to research the case and answer the study questions. The week of the last lab (week 4)—before the laboratory exam on the upper

extremity—the students submitted a written report of their answers at the start of the lab. Each lab section was then divided into subgroups of six to nine students who, without notes, then responded to the study questions as posed by the lab instructor. Approximately 15 to 20 minutes was set-aside at the start of each lab section for the discussion by the students. This was done at the start of their regular lab time during the week of the lab practical on the upper extremity.

Students were selected at random to answer questions from the list. Other students supplemented these answers. I followed up with additional questions related to points raised during the discussion. Grades were based on a total of 25 points (20 for the written work; 5 for the oral).

Groups this size were used to avoid taking up any more lab time than necessary. In a classroom setting, groups of three to five per group would be more desirable to increase participation by individual students. If possible, the discussion should take place around a cadaver and the students should be asked to point out the structures involved.

Alternative uses for this case include the following:

1. The case is presented in class at the start of the upper extremity section and students permitted to work on the answers in groups. The class then discusses the questions as various muscles, blood vessels, and nerves are introduced.
2. The case is used as part of a review on the upper extremity at the end of that course section.
3. This case is used with a systems approach at the end of the semester as a part of a final review for a comprehensive exam.
4. The instructor divides the students into small groups and instructs each group to work on different aspects of the problem. The answers from each group are then shared during a classwide discussion.
5. Each group of students works on the entire case study and its questions and then shares ideas between groups or with the whole class. The method presented in the case study divides a typical lab group in half for a discussion of the questions associated with the case. An in-class mechanism might involve three to six groups of three to five students each. A couple of possible techniques can be used:
 - a. The class (lecture) instructor has several classroom groups, each working on the whole case and its questions. At the next class, the instructor directs each group to report in class on some of the questions; other groups then respond with their thoughts on the questions.
 - b. The instructor uses a collaborative technique where the members of each group answer specific questions associated with the case. At the next class, students pass their answers to members of the other groups so that each group has a different set of answers from their own. The groups then discuss their answers and compare them with their own. A class discussion of how and why the answers differ is then held.
6. Individual students in lecture (rather than lab) could complete the assignment and then participate in a classwide discussion of the questions.

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](#).

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Acknowledgements: This case was developed with support from The Pew Charitable Trusts as part of the Case Studies in Science Workshop held at the University at Buffalo, State University of New York, on June 11-15, 2001.

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Date Posted: 05/24/02 nas. Revised 08/20/02.

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