

Name: _____ Section: _____

Connecting to patients (Published case reports on real people.)

Peripheral nerves in the limbs

Read the Case Report article in this week's BlackBoard folder. This time several people with similar injuries are described. You will also find some extra art. Remember that the Marieb muscle chapter has tables of muscles with the nerve controlling each muscle named.

Outside resource suggestion: Medical dictionary at
<http://www.nlm.nih.gov/medlineplus/mplusdictionary.html>

1. Recall that [clarity](#) and [precision](#) are among the standards of critical thinking. In the first sentence after the abstract, the authors use the phrase "true glenohumeral abduction" instead of just "abduction of the arm" or "abduction at the shoulder". Either from your reasoning or by reading the rest of the paper attentively, identify some way to make a motion that WOULD be "abduction of the arm" but would NOT be "glenohumeral abduction".

2. In each case the authors describe the deltoid muscle as "wasted": a term with both medical and non-medical meanings.

2a) **Assuming** the medical meaning and using the medical dictionary, describe how you would expect the appearance of the affected shoulder to differ from the normal one.

2b) From what you learned doing the EMG questions (from Marieb or that lab handout) why did the deltoid become wasted? Be sure your response is reasonably [deep](#), according to the [standards of critical thinking](#).

Text in Red

Indicates the infusion of the
Elements of Reasoning

Text in Blue

Indicates the infusion of the
Intellectual Standards

Text in Green

Indicates the infusion of the
Intellectual Traits

[Bracketed Text]

Indicates the indirect use of
critical thinking **[Elements]**,
[Standards], or **[Traits]**

[View more about the Paul-Elder
Framework of Critical Thinking](#)

Would you expect the injuries described for patient #3 to affect this nerve and its control of its muscle? Explain, anatomically, why or why not.

4. The authors of this paper cite some other papers for evidence *[Information]* that some rotator cuff muscles may be substituting for the abductor function of the deltoid. The authors make some **assumptions** about the reader's background knowledge, though, and you may need to find out one or two new things to fully follow the **logic** of their argument. Here is a quoted phrase from the article that needs some unpacking:

"Highet (22), using a procaine block of the suprascapular nerve in such a patient abolished shoulder abduction, and thus rather elegantly provided evidence to support the theory."

Assume the following:

- "Such a patient" means one with no deltoid function.
A procaine block is an anesthetic procedure that temporarily, not permanently, stops action potentials in the affected nerve.
- "The theory" means a hypothesis that a person can use some rotator cuff muscles to do some of the deltoid's job.

4a) Identify at least two rotator cuff muscles that are controlled through the suprascapular nerve.

4b) What hypothetical outcome of Highet's experiment would have **logically** suggested that those rotator cuff muscles were NOT essential to arm abduction in this situation? Explain.

5. Elements of reasoning: **Point of View**. From the way in which the authors describe the outcome for their patients, how do you think they would define a "satisfactory" outcome after axillary nerve destruction? There is not necessarily a clear "right" answer: look for positive and negative words used.