

# Is My Pitching Career Over?: Problem Handouts



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# Is My Pitching Career Over?

## Part 1

Tom, a 53-year-old, right hand-dominant male, plays on a traveling "exhibition" fast-pitch softball team. He has been a fast-pitch softball player for most of his life, and has made an excellent living since joining the "Arizona Jesters", a traveling fast-pitch team that plays exhibition games against professional major league baseball teams (during spring practice) and regional championship-quality softball teams around the country. Tom is noted for his ability to pitch from any part of the infield (pitcher's mound, first, second or third base), and is such a high-quality pitcher that his team consists of only 4 players: pitcher, catcher, outfielder and infielder. Indeed, he holds the record of never having had a major-league batter hit a ball into fair territory in over 30 years of pitching!

For the past 6 weeks Tom has been noticing the following symptoms in his pitching arm:

- Irregular and irritating fasciculations (twitching) in his right upper limb.
- Periodic pain, numbness, tingling and burning sensations in muscles of his right upper limb.

These symptoms have increased in periodicity and severity within the last 5-10 days, and Tom finally consented to visit the team physician after his catcher noticed a significant drop off in pitch velocity and accuracy.

### ***Physical Examination:***

- The patient is 53-years old and weighs 145 pounds.
- Blood pressure and heart rate are within normal range.
- During the examination the physician noted irregular fasciculations of muscles of the back and chest.
- ROM for the upper limb (shoulder) appeared to be reduced.

The team physician was perplexed. He immediately made an appointment with a neurologist, neurosurgeon and orthopedic surgeon at the University of Arizona Medical Center.

### ***Question:***

Based upon the preliminary examination of the team physician, what is your diagnosis for this patient?

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## Part 2

Within the week, Tom was examined by the chiefs of neurology, neurosurgery and orthopedic surgery at the University of Arizona medical center. In addition to confirming the preliminary clinical observations, the physicians determined the following:

- CBC, ESR, serum glucose, and serum CPK were all within normal range
- ROM measurements for the shoulder demonstrated the following:
  - flexion =  $90^{\circ}$
  - extension =  $25^{\circ}$
  - medial (internal) rotation =  $30^{\circ}$
- Muscle ultrasound demonstrated early stages of muscular atrophy in the serratus anterior, pectoralis major, latissimus dorsi and teres major muscles.
- Long-duration, high-amplitude motor unit potentials were demonstrated in the serratus anterior, pectoralis major, latissimus dorsi and teres major muscles.

Further questioning of the patient by the physicians demonstrated the following:

- Difficulty with bench press and other associated weight exercises demonstrated a slow development of asymmetric weakness in the right upper limb, particularly the shoulder area.
- The patient had been diagnosed with poliomyelitis in the early- to mid-1950's.

### Questions:

1. What is your medical diagnosis for this patient? *Be as specific as possible.*
2. As a result of the structures involved in this patient's condition, give a comprehensive analysis for any changes in the kinesiology of the upper limb, muscle by muscle. Be sure to utilize sound kinetic and kinematic concepts, including force vectors.
3. Yes or No? Would any joints become less stable as a result of this patient's condition? Defend your answer and be sure to utilize sound kinetic and kinematic concepts.
4. What is the probable answer to the patient's question?

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## Team and Self Assessment Form

Your name: \_\_\_\_\_

Please use the rating scale below to describe how you and your team members performed on each of the tasks listed associated with your PBL group's activities. The purpose of the grading is not to divide groups but to reward those making above average effort and to encourage those not giving their fair share to the group overall effort.

5 if Always    4 if Very Often    3 if Sometimes    2 if Rarely    1 if Never

PBL Group Number: \_\_\_\_\_

Please fill in PBL Group Members' *Last* Names (including your own)

Names                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Completed assigned tasks \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Contributed valuable  
information to the group                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Attended group meetings                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Was honest in reporting  
progress about his/her  
assigned tasks                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_

Participated in writing  
final report                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_                      \_\_\_\_\_



Now, ***please circle*** the rating below that you feel you would best describe your group's overall performance:

Very good

Good

Barely Acceptable

Poor

Very Poor



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## PBL Self Evaluation Form

This evaluation form will not be utilized in assigning any grades. However, it is beneficial to reflect on any progress that you might have made in various areas as a result of participating in a PBL course. Therefore, please evaluate yourself utilizing the following scale.

Scale:

- 5 = Strongly agree
- 4 = Agree
- 3 = Neutral
- 2 = Disagree
- 1 = Strongly disagree

Your name: \_\_\_\_\_

As a result of my participation in PBL in Human Anatomy I feel that I have improved in the areas of:

1. Effective group participation \_\_\_\_\_
2. Effective group communication \_\_\_\_\_
3. Evaluation of myself (self evaluation) \_\_\_\_\_
4. Evaluation of others (peer evaluation) \_\_\_\_\_
5. Acquiring information to solve complex problems \_\_\_\_\_
6. Evaluation of the quality of information needed  
to solve complex problems \_\_\_\_\_
7. Working effectively with others \_\_\_\_\_



8. Higher-order, critical thinking skills \_\_\_\_\_

Overall improvement rating of yourself: \_\_\_\_\_

5 = excellent; 4 = good; 3 = average; 2 = needs work; 1 = poor

