**Title and Focus of Activity**: Wheelchair Letter of Medical Necessity Triple Jump Assignment *Examination; Management of Care Delivery*

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**Course Information:** Neuromuscular Physical Therapy; 10 credits (in our problem based learning format, this course combines neuroanatomy lab, neuromuscular-related clinical lab, small group tutorials on neuromuscular coursework, and inquiry seminars that are discussion formatted “lectures.” This activity requires direct application of information learned in clinical lab and inquiry seminar.); Year 2 fall and winter semesters.

**Learning Activity Description**: This is a triple-jump or 3 phase assignment and is completed over a 2 week time period.

During phase I, students work in small groups and are provided with a prompt (e.g. You receive a script for John Smith D.O.B. 9/26/81 for “wheelchair evaluation” with a diagnosis of “T6 ASIA A SCI.”) Based on this patient information, the students formulate a specific plan for the interview, listing out the order of questions as they would ask this patient. One student from the group turns in their planned interview. A faculty member provides the students with written responses that could have been reasonably attained from their interview within the given time frame (e.g. 15 minutes). These responses are provided to the students within 24 hours of the deadline for interview question submission.

During phase II, the students use these results to formulate a plan for the physical examination portion of the patient assessment. One student turns in their planned tests and measures. A faculty member provides students with written results of the tests and measures that could have been reasonably completed within the given timeframe (e.g. 45 minutes). These results are provided within 24 hours of the deadline for submission of the examination plans.

Phase III is completed individually and consists of the student utilizing the information gleaned from the interview and physical examination portions of the assignment to evaluate the patient and select an appropriate wheelchair and its componentry. Students then utilize a sample letter of medical necessity and any available online resources to create a patient specific letter of medical necessity for the wheelchair and its componentry.

“Red flags” are built into each case that are considered key points the students must address (e.g. inability to complete independent pressure relief requires tilt in space feature or a very active child would need increased camber). See the student directions in Appendix A.

Time for student to complete the activity: 1. preparation for activity outside of/before class: Approximately 5 hours 2. class time completion of the activity: None, students complete this activity following an associated 2 hour clinical lab and 1 hour inquiry seminar (discussion formatted “lecture”).

Readings/other preparatory materials: Prior to completing this assignment, students are introduced to wheelchair components and wheelchair prescription for individuals with spinal cord injury. During a 1 hour inquiry seminar, the students speak with a local wheelchair company representative about different wheelchair components and learn different ways that wheelchairs can be modified and individualized. During the 2 hour clinical lab, students separate into groups of 3-4 students and are provided with a customized wheelchair. Under faculty guidance, the students examine the wheelchair, learn how to adjust components of the wheelchair, and then determine the likely characteristics of a user for that particular chair. The groups then take turns leading their peers to better understand the wheelchairs through an interactive question and answer session that ensures every student examines every wheelchair. Following these presentations, the students have the opportunity to practice adjusting wheelchair brakes, axle positioning, and leg rests, folding the wheelchairs, removing wheels, etc., on the wheelchairs. The preparatory assignment for the associated clinical lab and inquiry seminar can be found in Appendix B.

Learning Objectives (excerpted from a larger list of course objectives):

Phase I Objectives – Interview 1. Demonstrate ability to accurately and thoroughly gather patient information through a patient interview for patients with spinal cord injury. 2. Select and prioritize questions to ask during a limited time interview as part of an initial evaluation for wheelchair prescription

Phase II Objectives- Examination 1. Synthesize information obtained during an interview of a patient with spinal cord injury to plan a prioritized exam, to be completed during a limited time wheelchair prescription initial evaluation

Phase III Objectives- Evaluation 1. Synthesize data obtained from history, systems review, and examination of an individual with a spinal cord injury who is seeking a new wheelchair 2. Apply prognostic indicators to patients with spinal cord injury as justification for a wheelchair and accessories 3. Demonstrate the ability to complete thorough and accurate documentation for a wheelchair letter of medical necessity

Methods of evaluation of student learning:

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| --- | --- | --- |
| Grading Criteria | Points Possible | Actual Points / Comments |
| Formulates appropriate questions for patient interview | Full- 51. Asks questions reflective of all areas of the ICF
2. Asks questions that are specific to the given diagnosis
3. At least 90% of questions could have been reasonably answered within the timeframe.

Partial-3* Meets a and b, but only 75% of questions could be reasonably answered in timeframe

Partial- 2.5 * Did not meet a, but did meet b and c
* Did not meet b, but did meet a and c

Partial- 1* One met of a and b and only 75% of questions could be answered in timeframe

None- 0 – did not meet a or b.  |  |
| Selects appropriate tests and measures based off of patient interview | Full- 5* 1. Selected tests and measures are clearly driven by patient interview results.
	2. All tests and measures will provide information relevant to the selection of wheelchair components
	3. Selected tests and measures cover adequate breadth to allow for proper wheelchair selection
	4. At least 75% of tests and measures could have been reasonably completed within the timeframe.

Partial-3.5* Meets a-c, but only 50% of tests and measures could be reasonable completed in timeframe
* Meets a, c, and d , but only 75% of tests and measures selected apply
* Meets a, b, and d, but missing some important tests and measures

Partial- 2.5 * Did not meet a, but did meet c and b at 75%
* Only 50% of tests and measures apply (b), but did meet a, c, and d

Partial- 1* more than 50% of tests and measures are not appropriate
* more than 50% of the tests and measures needed were not included
* no clear correlation between interview and selection of tests and measures
 |  |
| Includes pertinent patient findings in LMN | Full- 3* includes pertinent information from interview and tests and measures
* does not include extraneous detail

Partial- 2 -missing some pertinent information OR includes some extraneous detailPartial- 1 -missing pertinent information AND includes some extraneous detailNot met- 0 – patient information not included. |  |
| Selects appropriate wheelchair and componentry | Full – 71. selection indicates consideration of prognostic indicators for wheelchair use
2. selection indicates consideration of interview and examination findings
3. selection indicates consideration of ICF
4. does not miss any “red flags”

Partial- 5* meets a and b, but not c
* meets b and c, but not a

Partial- 3 -meets b, but not a or cPartial 2 -does not meet b, but would generally be appropriate for someone with this diagnosisNot met- 0 –wheelchair and componentry are not appropriate for this patient |  |
| Maintains professional tone throughout 3 phases | Full- 41. follows appropriate LMN format
2. utilizes patient first and empowering language throughout
3. Thanks insurance company for assisting in cooperative care of the patient.

Partial- 3- Meets a and b, but not cPartial -2 -Up to 2 distracting infringements Partial- 1 -Up to 4 distracting infringements None- 0- More than 4 distracting infringements |  |
| Grammar, spelling | Full- 1 -Less than 3 distracting errorsNone- 0 – 3 or more distracting errors |  |
| Total: | 25 |  |

**Appendix A Student Directions**

Wheelchair Letter of Medical Necessity Triple Jump- Phase I

You receive a script for John Smith D.O.B. 9/26/81 for “wheelchair evaluation” with a diagnosis of “T6 ASIA A SCI.”

In your group of 4-6 students, compile a list of questions that you would plan to ask during your interview of this patient. Plan for a 15 minute interview and try to select the questions that will best allow you to formulate an effective physical examination of this patient. Remember that your goal is to provide the most appropriate wheelchair for your patient. In order to do so be sure that you are considering all aspects of the ICF. If you feel that certain answers will lead to a different flow of questions, please feel free to create a flow chart indicating how your subsequent questions would vary based on the answers. You will only receive answers for questions that could reasonably be answered within the 15 minute window. You will only be provided with the answers to the questions that you ask. Just as in real life, forgetting important questions may leave you at a disadvantage later in the process. Be sure to review the grading rubric.

Wheelchair Letter of Medical Necessity Triple Jump- Phase II

In your same groups of 4-6 students, utilize the results of your interview to select appropriate tests and measures that will allow for you to optimize your patient’s wheelchair. Consider the appropriate flow for tests and measures to best utilize your time and your patient’s energy. If you believe that the outcome of one test and measure will affect the selection of future tests, please feel free to create a flow chart indicating how your subsequent tests and measures would vary based off of your results. Your tests and measures need to fit within a 45 minute window. You will only receive the results of tests and measures that could reasonably be completed within 45 minutes. You will only be provided with the information that you state you would test for. Just as in real life, not including pertinent tests may leave you at a disadvantage later in the process. Be sure to review the grading rubric.

PT 605 Wheelchair Letter of Medical Necessity Triple Jump- Phase III

Utilize the results of your interview and tests and measures to *individually* select a wheelchair and components for your patient. Consider all aspects of the ICF when choosing the ideal componentry for your client’s wheelchair. After selecting the optimal wheelchair, create a letter of medical necessity for this wheelchair. Many wheelchair vendors provide online tools to assist you with the creation of a letter of medical necessity, and these can be a great *starting point.* You may reference the sample letter of medical necessity on Moodle, but be sure to review the grading rubric.

**Appendix B PT 605: Wheelchair Inquiry Seminar and Lab Prep**

While you are encouraged to utilize multiple texts, many students find the following text that is available in the Health Professionals Library helpful in completion of this preparation guide: Somers MF. *Spinal Cord Injury: Functional Rehabilitation*, *3rd ed.* New Jersey: Prentice Hall; 2010.

1. Name three reasons why it is beneficial for a patient to learn how to do a wheelie.
2. What are the pros and cons of seat belts on wheelchairs for people with or without a spinal cord injury?
3. Describe proper posture for patients seated in a wheelchair.
4. Describe the expected functional outcomes for wheelchair use for the following motor levels for a motor complete spinal cord injury:
	1. C4 and above:
	2. C5:
	3. C6:
	4. C7:
	5. C8:
	6. T1 and lower:

**Manual wheelchairs**

1. What is camber and what are the pros and cons to increasing camber in relation to wheelchairs?
2. How should a physical therapist determine the ideal height of a backrest for a patient who uses a manual wheelchair independently?
3. How does axle position affect the wheelchair user?

A patient with a C7 spinal cord injury is asking for help selecting a wheelchair, using the charts on pages 238-240 in your Somers text select appropriate parts and provide your reasoning selection of:

1. Frame:
2. Backrest:
3. Seat:
4. Wheel attachments:
5. Camber:
6. Wheel locks:
7. Wheel design:
8. Antitippers:
9. Handrims:
10. Tires:
11. Caster size:
12. Front rigging:
13. Armrests:

**Power assist chairs**

1. Name one benefit and one drawback to PAPAWs (pushrim-activated power-assist wheelchair)

**Power wheelchairs**

1. Name one disadvantage of each type of base:
	1. Rear wheel drive
	2. Front wheel drive
	3. Mid wheel drive
2. What options are available for patients with a C4 or above injury to be independent with driving a wheelchair? Name 3.
3. What wheelchair features are available to allow a patient with a cervical spinal cord injury to be independent with pressure relief?