ENHANCING MOTOR CONTROL FOR OCCUPATION

COURSE SYLLABUS

Lecture/Lab: Tuesday, 5:30-9:00 pm
California Rehabilitation Institute
2070 Century Park East
Los Angeles, California 90067
Hospital Main #: 424-522-7100

Experiential Activities: Participation in Rehabilitation Setting-2 hours per week

Dates: January 9-May 1, 2018

Office Hours: Tuesday, 4:30 – 5:30 pm or by appointment

Course Instructors:

Pamela Roberts, PhD, OTR/L, SCFES, FAOTA, CPHQ, FNAP, FACRM
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Dawn Hironaka, OTR/L
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Clinical Instructors for Experiential Activities: Occupational Therapy Staff
California Rehabilitation Institute

COURSE DESCRIPTION:

This clinical course is an elective and can be applied toward the elective requirements for the Master of Arts in Occupational Therapy and Occupational Science. The course provides students with an in depth understanding of principles and methods for remediation of motor control problems following upper motor neuron lesions. Through journal article review, assigned readings, seminar discussions, laboratory experiences and participation in an adult rehabilitation setting, students will learn theories and concepts of motor control and motor learning, as well as their application to the impairments and disabilities of individuals with upper motor neuron lesions. The course will review basic anatomy and biomechanics of the trunk and upper extremity, and the ways in which typical motor control problems of the adult with hemiplegia/hemiparesis interfere with performance in occupation. With supervision and instructor feedback, students will practice movement analysis, assessment, handling skills, and intervention approaches along with occupation-based interventions. Students will participate in journal article reviews to facilitate concise review of literature, clinical reasoning, and application of current evidence to course concepts. The course will be held at California Rehabilitation Institute offering students the opportunity to observe intervention and engage with patients and clinicians on a regular basis. The course will include observation of specific motor assessments and occupational therapy intervention for adults recovering from stroke and/or acquired brain injury or neurological disease.

GOALS AND LEARNING OBJECTIVES:

The overall goals of this course are for the student to: (1) learn core knowledge related to the occupational therapy role with people who have motor control problems that interferes with their daily occupations, (2) use this knowledge for clinical problem solving, and (3) understand how occupational therapy's unique perspective enhances motor control for occupation. These goals are further specified in the following behavioral objectives.

Upon completion of this course, the student will:

1. comprehend contemporary theories of motor control and current understanding of motor control deficits following an upper motor neuron lesion.

2. identify intervention strategies for the treatment of motor control deficits following an upper motor neuron lesion.

3. identify motor deficits to develop intervention strategies for remediation of motor control deficits.

4. develop observation skills and handling strategies for remediation of motor control deficits.

5. integrate intervention strategies within a comprehensive, occupation-centered treatment plan.

6. develop skill in presenting brief and concise review and discussion of relevant clinical literature in a group setting.

7. understand the historical development of the motor control approaches for the treatment of adults with hemiplegia/hemiparesis in occupational therapy.

8. understand the basic principles of a variety of motor control approaches

9. assess motor control and occupational deficits of an individual with a stroke and/or acquired brain injury or neurological disease.

10. structure a management program, including individual sessions, to achieve improvements in motor control in preparation for and during occupation.

11. develop motor control management strategies for treatment, including mobilization and handling.

12. analyze typical movement patterns in occupation.

13. incorporate principles of various motor control approaches into an occupation-centered framework of care.

14. demonstrate ability to perform selected motor standardized assessments.

15. demonstrate ability to document motor assessment and intervention.

CLASS POLICIES AND PROCEDURES:

ADA

Students requesting academic accommodations based on a disability are required to register with Disability Services and Programs (DSP) each semester. A letter of verification for approved accommodations can be obtained from DSP when adequate documentation is filed. Please be sure the letter is delivered to the instructor as early in the semester as possible. DSP is open Monday-Friday, 8:30-5:00. The office is in Student Union 301, and their phone number is (213) 740-0776.

University Student Conduct Code

The Student Handbook specifies the "Student Conduct Code" principles and procedures. All students are required to read and understand the Conduct Code. Violations of the Code include but are not limited to plagiarism, fabrication, unauthorized collaboration, and violation of examinations. Code violations and sanctions are outlined in the student manual. These standards of academic integrity will be adhered to in this class. Please feel free to ask questions and obtain clarification regarding academic integrity.

Attendance

Class attendance is required. However, if a student is unable to attend class (due to personal illness, death in immediate family, or professional activities that have prior approval) the instructor must be notified. If you are unable to attend class leave a message for the instructor at 818-590-0004. Attendance will be included in the evaluation of participation for the course.

Assignments

Students are expected to read assignments before coming to class. Students are required to complete the assignment participation in the rehabilitation setting weekly.
Students are responsible for obtaining handouts and assignments distributed in class and/or posted on Blackboard.

California Rehabilitation Institute Requirements

- All students must wear a white collared plain shirt (no logos, writing, etc.) and black pants (no jeans), closed toe flat shoes and socks when observing patient treatment. If you do not comply, you will be unable to participate in the course.
- All students **MUST** provide evidence of flu vaccine by the first day of class. Students who do not provide proof of flu vaccine, will be unable to participate in this course.
- Students **MUST** provide the following on the first day of class to participate in this course.
    - Valid CPR card
    - Date of birth
    - Last 4 digits of your social security number
    - TB status including date clearance
    - Health clearance that includes evidence of measles, mumps, rubella, Hepatitis B and varicella
    - Proof of flu vaccine
- Students must sign the specific California Rehabilitation Institute documents during first day of class.

Student's Role:

- Attend all scheduled class sessions – except in case of illness or emergency, at which time you should notify instructor of absence **IN ADVANCE**. Unexplained absences or more than one absence may result in an incomplete grade in the course.
- Provide necessary health clearance and HIPAA and CPR certification as requested by California Rehabilitation Institute by the first class.
- Complete necessary paperwork required by California Rehabilitation Institute by the first day of the course. Abide by California Rehabilitation Institute policies and dress code (black pants and white collared shirt).
- Participate in all lecture discussions and lab activities, including discussions, problem-solving sessions, and patient intervention.
- Complete readings as selected by course instructor and peers.
- Participate in patient group sessions as directed (see assignments).
- Submit written intervention plans to identified instructor for each intervention session as directed (see assignments).
- Prepare all written assignments as outlined by course instructor (see assignments). Submit written assignments according to established deadlines.

Instructor's Role:

- Attend all scheduled class meetings – except in case of illness or emergency – or notify students in advance of cancellation or substitution.
- Prepare course syllabus and class schedule
- Prepare lecture and lab materials to guide students' learning experiences.
- Facilitate students' learning through multimedia lecture presentations and lab demonstrations.
- Facilitate students' learning experiences through individualized feedback during lab practice sessions.
- Complete readings in conjunction with students for review and discussion.
- Facilitation discussions and problem-solving sessions.
- Arrange for clinical observations and participation in treatment in coordination with Occupational Therapy staff at California Rehabilitation Institute. Attend selected observations to facilitate discussion and synthesis in relation to course material.
- Provide clear and written guidelines for all assignments.
- Provide feedback on all assignments within one week.
- Be available for office hours weekly and flexible for additional appointments.

COURSE READINGS:

REQUIRED RESOURCES:

Readings will be provided by instructor and/or course participants. Students must be able to independently access additional readings, available on-line through USC electronic journals at http://www.usc.edu/libraries/index.php#ejournals.

ADDITIONAL RESOURCES (not required):

Gillen, G. (Ed.) (2011). *Stroke Rehabilitation: A Function-Based Approach, Third Edition*. St. Louis: Mosby.

Rosenbaum, D. A. (2010). Human Motor Control, Second Edition. Burlington, MA: Elsevier, Inc.

COURSE GRADING:

This course is a Credit/No Credit course. Therefore no letter grade will be assigned. Students satisfactorily completing ALL "learning experiences/assignments" (see below) will receive credit for the course.

EXPERIENTIAL ACTIVITIES/ASSIGNMENTS:

Class Participation
Students are expected to attend and participate in class discussions and problem-solving sessions, and to participate actively with peers in laboratory practice of "hands-on" methods to integrate theory and handling skills in motor control, as instructed. Students will also be asked to volunteer as lab models during demonstrations.

Experiential Activities/Sessions
In addition to scheduled class time, each student will observe and participate in one weekly occupational therapy session at California Rehabilitation Institute. Each student will be assigned to a clinical instructor for experiential activities and will be involved in assessment, intervention and documentation, based upon course materials and instruction by California Rehabilitation Institute occupational therapy staff. Students must provide all documentation required by California Rehabilitation Institute for participation with patients. Professionalism in behavior and personal presentation is expected in the clinical community. **Students must attend 10 experiential activities/sessions**. Students are expected to notify instructor and assistant instructor in advance if unable to attend a weekly experiential session, and each student is responsible for scheduling a time with the identified instructor to make up the session. At the end of the course, each group must have participated and completed all experiential assignments in order to receive a passing grade for the course.

OT 574: Enhancing Motor Control for Occupation Experiential Assignments

The class will be divided into small groups. All assignments are to be done with all group members. Turn in assignments by identified due dates for the group.

Week	Experiential Assignments
Week 2: Week of 1/15-1/19	Complete Patient Observation of Motor Control Activities **Due 1/23/18**
Week 3: Week of 1/22-1/26	Over the time period below, the following observations should be completed. ☐ Complete Drawing of Front and Back ☐ Complete Observation Assessment of Neck, Trunk, Shoulder, and Scapula ☐ Observe and complete COPM ☐ Observe treatment based on COPM goals including patient's response and your overall reflection in terms of motor control intervention ☐ Observe and perform assessment of at least one patient using Fugl-Meyer Motor ☐ Complete Treatment Plan Guide for Motor Control ☐ Observe the Modified Ashworth Scale and Occupational Therapy of Evaluation ☐ Complete Modified Ashworth Assignment
Week 4: Week of 1/29-2/3	
Week 5: Week of 2/5-2/9	
Week 6: Week of 2/12-2/16	
Week 7: Week of 2/19-2/23	
Due by 2/23/18	**1. Drawing and Complete Observation of Assessment of Neck, Trunk, Shoulder, and Scapula** **2. COPM** **3. COPM treatment based on goals and overall reflection in terms of motor control intervention** **4. Fugl-Meyer Assessment and Treatment Plan for Motor Control** **5. Modified Ashworth Assignment**
Week 8 and Week 9 2/26-3/2 and 3/5-3/9	Externship
Week 10: Week of 3/12-3/16	Spring Break
Week 11: Week of 3/19-3/23	Observe Motor Intervention
Week 12: Week of 3/26-3/30	Observe Motor Intervention
Week 13: Week of 4/2-4/6	Observe Motor Intervention
Week 14: Week of 4/9-4/13	Observe Motor Intervention **Write Intervention Plan for one patient** **(any patient observed from Weeks 11, 12, 13 and 14)** **Due 4/13/18**

Examining the Evidence: Journal Article Discussions
Students will each select, read and review a recent journal article on a topic of interest related to course content. There will be a sign up for articles and presentation of article discussion including a one-page write up on each article. Students will contribute to leading a journal article discussion once during the semester including use of power point presentation.

Topic areas might include, but are not limited to:

- Evidence-Based Practice for individuals with/recovering from upper motor neuron lesions
- Recovery of function
- The experience of living with stroke or brain injury
- Participation in occupation following stroke or brain injury
- Occupation versus Exercise
- Repetition to promote motor control
- Remediation versus Compensation

In advance of chosen week/article discussion: Provide others in the course either a link to the article or PDF file.
On the day of the article review: Provide completion of one page review of article and provide an annotated bibliography of the article and 3-4 discussion questions. Briefly present the article using a PowerPoint presentation and facilitate discussion in relation to questions and other articles presented.

Group Case Presentations
For the case presentation, students will analyze normal movement requirements of a variety of occupations linked to the patients' goals, as well as present a summary of each patient and intervention process.

- **April 17, 2018:** Work Session for presentations
- **April 24 and May 1, 2018:** Students will do a 45 minute presentation of group's patient case with visual materials for the last two class sessions. Visual material (if used) must follow California Rehabilitation Institute release requirements. The presentation should address movement and occupational goals; how intervention was structured including preparation, movement skills, and occupation; and highlights of the intervention process. Discussion should relate to evidence. Cases should be presented in a professional manner. Refer to Case Presentation Format. All presentations must include a PowerPoint presentation.

OT 574: CLASS SCHEDULE & READINGS

WEEK:	DATE:	TOPIC:	READINGS:
1	**January 9**	**Course Introduction** Students' Goals Scheduling Intervention Times-Group Sign Up **California Rehabilitation Institute Orientation** **Theoretical Foundation of Motor Learning (Motor Program Theory and Dynamic Systems Theory)** **Review of Evidence-Based Practice Concepts** **Dosage, Frequency, Duration** **Introductory Concepts of Motor Control** **California Rehabilitation Institute Required Documentation**	Bass-Haugen et al. (2008) Langhammer (2000) Page et al. (2012) Phipps & Roberts (2012) Stinear (2010)
2	**January 16**	**Biomechanical Concepts and Motor Control:** **Principles of Handling or "Facilitation" or "Inhibition"** **Breakdown of a Motor Control Session:** **Development of Upper Extremity Function: Grading and Sequencing Interventions** **Assessment** Observation Assessment of Tone-Modified Ashworth	Dobkin (2005) Hsieh et al. (2002) Gladstone et al., (2002) Law et al., (1990) Lundy-Ekman (2002) Phipps & Richardson (2007) Wolf et al. (2001) Velozo & Woodbury (2011) Ryerson & Levit (1997) Sanford et al. (1993) Sullivan et al. (2011)

		Motor Activity Log (MAL) Canadian Occupational Performance Measure (COPM) Selected Assessments (e.g. Fugl Meyer Motor Assessment-Upper Extremity, Wolf-Motor Function Test)	
3	**January 23**	**Scapular and Trunk Assessment, Facilitation, and Mobilization** **Balance Assessments** • **Functional Reach Test** • **Function in Sitting Test (FIST)**	Bender & McKenna (2001) Michaelson & Levin (2004) Pollock, et al. (2000) Verheyden et al. (2004)
4	**January 30**	**Shoulder Movement and Positioning** **Shoulder Girdle:** • Review of Anatomy and Biomechanics • Assessment • Shoulder Subluxation (Positioning, Taping, Slings)	Dieruf et al. (2005) Goldstein (2004) Bender et al. (2001) Borg-Stein & Simons (2002) Hayner (2012) Mehta et al., (2013) Jackson et al. (2002) Jaraczewska & Lang (2006) Paci, Nannetti & Rinaldi (2005)
5	**February 6**	**Elbow, Wrist and Finger Management** **Inhibitory Casting**	Sabari (2008) Harris et al. (2009) Stoeckmann (2001)
6	**February 13**	**Neuromuscular Electrical Stimulation (NMES)** Shoulder Subluxation Upper Extremity Facilitation Alternative E-Stim (e.g. Bioness)	Baker, L (2000) Chapters 1 & 2 Patten et al. (2004)
7	**February 20**	**Edema Management** Coban, Contrast Bath, Icing, Compression glove, Retrograde massage	Baker, L. (2000) Chapters 1 & 2 Gustafsson et al. (2014)

8 & 9	**February 27 and March 6**	**No Class (Externship)**	
10	**March 13**	**SPRING RECESS**	
11	**March 20**	**Spasticity Management** **Robotics and Exoskeletons/Technology/ Mirror Therapy**	Baker, L: Chapters 1 & 2 Ezendam et al. (2009) Kwakkel, Kollen & Krebs (2008) Lo et al. (2010) Rothgangel et al. (2011)
12	**March 27**	**Handling in Occupation: Handling during Function**	Dromerick et al. (2006) Richards et al. (2000) Steultjens (2003) Wiles et al. (2004)
13	**April 3**	**Evidence-Based Journal Review**	Examining the Evidence: Journal Article Selections
14	**April 10**	**Complete Evidence-Based Journal Review and Preparation/Work Session**	Examining the Evidence: Journal Article Selections
15	**April 17**	**Preparation/Work Session**	
16	**April 24**	**Case Presentations**	
17	**May 1**	**Case Presentations** **Wrap Up and Discussion**	

*All topics subject to change

EXPERIENTIAL GROUPS

Sign up for experiential groups will occur during Week 1 Class
10 Experiential Groups of 3 students each

Experiential Group Times are as follows:
Group 1: Tuesday 10:00 am-12:00 noon
Group 2: Tuesday 10:00 am-12:00 noon
Group 3: Tuesday 1:00 pm-3:00 pm
Group 4: Tuesday 1:00 pm-3:00 pm
Group 5: Wednesday 10:00 am-12:00 noon
Group 6: Wednesday 10:00 am-12:00 noon
Group 7: Wednesday 1:00 pm-3:00 pm
Group 8: Wednesday 1:00 pm-3:00 pm
Group 9: Thursday 10:00 am-12:00 noon
Group 10: Thursday 1:00 pm-3:00 pm

PARKING

- Parking is limited. PLEASE consider carpooling to help defray your parking costs ($22/day).
- Other Parking Options
- There is some parking on the street below the hospital
- Parking in surrounding streets (time limits—so please read the signs)
- Parking lot next to the hospital
- Parking in Westfield Century City Mall (a little bit of a walk)

- California Rehabilitation Institute
  2070 Century Park East
  Los Angeles, CA 90067
  P: (424) 522-7100

Class Location: 2070 Century Park East, Century City, California 90067
Enter the hospital lobby and turn to the left and go into the community room

READINGS AND ADDITIONAL RESOURCES:

Baker, L., Wederich, C., McNeal, D., Newsam, C., & Waters, R. (2000). *Neuro Muscular Electrical Stimulation: A Practical Guide*, 4th edition. Downey: Los Amigos Research & Education Institute, Inc.

Bass-Haugen, J., Mathiowitz, V., & Flinn, N. (2008). Optimizing motor behavior using the occupational therapy task-oriented approach. In Radomski, M. V. & Latham, C. A. T. (Eds.), *Occupational Therapy for Physical Dysfunction*, 6th edition, (pp. 598-617). Philadelphia: Lippincott Williams & Wilkins.

Bender, L. Y McKenna, K. (2001). Hemiplegic shoulder pain: Defining the problem and its management. *Disability and Rehabilitation, 23,* 698-705.

Borg-Stein, J., & Simons, D. G. (2002). Myofascial pain. *Archives of Physical Medicine and Rehabilitation, 83 Suppl 1:* S40-7.

Dieruf, K., Poole, J. L., Gregory, C., Rodriguez, E. J., Spizman, C. (2005). Comparative effectiveness of the givmohr sling in subjects with flaccid upper limbs on subluxation through radiologic analysis. *Archives of Physical Medicine and Rehabilitation, 86*: 2324-2329.

Duncan, P. W., D. K. Weiner, et al. (1990). "Functional reach: a new clinical measure of balance." J Gerontol 45(6): M192-197.

Dobkin, B. H. (2005). Rehabilitation after stroke. *The New England Journal of Medicine, 352(16)*, 1677-1684.

Dromerick, A.W., Lang, C.E., Birkenmeier, R., Hahn, M.G., Sahrmann, S.A., & Edwards, D.F. (2006). Relationships between upper-limb functional limitation and self-reported disability 3 months after stroke. *Journal of Rehabilitation Research & Development,* Vol 43(3): 401-408.

Ezendam D, Bongers RM, & Jannink MJA (2009). Systematic review of the effectiveness of mirror therapy in upper extremity function. *Disability and Rehabilitation*, 31(26): 2135-2149.

Gladstone, D. J., Danells, C. J., & Black, S. E. (2002). The Fugl-Meyer assessment of motor recovery after stroke: A critical review of its measurement properties. *Neurorehabilitation and Neural Repair, 16(3)*. 233-240.

Goldstein, B. (2004). Shoulder anatomy and biomechanics. *Physical Medicine and Rehabilitation Clinics of North America, 15*: 313-349.

Gorman SL, Harro CC, Platko C, and Greenwald C (2014). Examining the function in sitting test for validity, responsiveness, and minimal clinically important difference in inpatient rehabilitation. Archives of Physical Medicine and Rehabilitation, 95: 2304-2311.

Gorman SL, Rivera M, and McCarthy L (2014). Reliability of the function in sitting test (FIST). Rehabilitation Research and Practice. Hindawi Publishing Corporation. http://dx.doi.org/10.1155/2014/593280.

Gustafsson L, Walter A, Bower K, Slaughter A, & Hoyle M (2014). Single-case design evaluation of compression therapy for edema of the stroke-affected hand. The American Journal of Occupational Therapy, Vol 68 (2): 203-211.

Harris JE, Eng JJ, Miller WC, and Dawson AS (2009). A self-administered graded repetitive arm supplementary program (GRASP) improves arm function during inpatient stroke rehabilitation. *Stroke*, 4: 2123-2128.

Hayner KA (2012). Effectiveness of the California tri-pull method for shoulder subluxation poststroke: A single-subject ABA design. *American Journal of Occupational Therapy*, 66, 727-736.

Hsieh C.L., Sheu C.F., Hsueh I.P., & Wang C.H. (2002). Trunk control as an early predictor of comprehensive activities of daily living function in stroke patients. *Stroke. 33(11):*2626-30.

Jackson, D., Turner-Stokes, L., Khatoon, A., Stern, H., Knight, L. & O'Connell, A. (2002). Development of an integrated care pathway for the management of hemiplegic shoulder pain. *Disability and Rehabilitation, 24,* 390-398.

Jaraczewska E & Lang C (2006). Kinesio®Taping in stroke: Improving functional use of the upper extremity in hemiplegia. Topics Stroke Rehabilitation, 13(3): 31-42.

Katz-Leurer, M., I. Fisher, et al. (2009). "Reliability and validity of the modified functional reach test at the sub-acute stage post-stroke." Disabil Rehabil 31(3): 243-248.

Kwakkel G, Kollen BJ, & Krebs HI (2008). Effects of robot-assisted therapy on upper limb recovery after stroke: A systematic review. *Neurorehabilitation Neural Repair*, 22 (2): 111-121.

Law M, Baptiste S, McColl M, Opzoomer A, Polatajko H, & Pollock N (1990). The Canadian Occupational Performance Measure: An outcome measure for occupational therapy. *Canadian Journal of Occupational Therapy*, Vol 57 (2): 82-87.

Langhammer, B. (2000). Bobath or motor relearning programme? A comparison of two different approaches of physiotherapy in stroke rehabilitation: a randomized controlled study. *Clinical Rehabilitation, 14*: 361-369.

Lo, AC, Guarino PD, Richards LG, Haselkorn JK, Wittenberg GF, Federman DG, Ringer RJ, Wagner TH, Krebs HI, Volpe BT, Bever CT, Bravata DM, Duncan PW, Corn BH, Maffucci AD, Nadeau SE, Conroy SS, Powell JM, Huang GD, and Peduzzi P (2010). Robot-assisted therapy for long-term upper-limb impairment after stroke. *The New England Journal of Medicine*, 362: 19: 1772-1783.

Lundy-Ekman, L. (2002). *Neuroscience: Fundamentals for Rehabilitation*. Chapter 9, pg. 169-217.

Mehta S, Teasell R, Foely N (2013). Painful hemiplegic shoulder. Retrieved from the World Wide Web December 14, 2014: www.wbrsr.com.

Michaelson, S. M. & Levin, M. F. (2004). Short-term effects of practice with trunk restraint on reaching movements in patients with chronic stroke: A controlled trial. *Stroke, 35*: 1914-1919.

Paci M, Nannetti L, & Rinaldi LA (2005). Glenohumeral subluxation in hemiplegia: An overview. *Journal of Rehabilitation Research & Development*, Vol 42(4): 557-568.

Page, S.J., Schmid, A., and Harris, J.E. (2012). Optimizing terminology for stroke motor rehabilitation: Recommendations from the American Congress of Rehabilitation Medicine Stroke Movement Interventions subcommittee. *Archives of Physical Medicine and Rehabilitation,* Vol 93: 1395-1399.

Patten, C., Lexell, J., Brown, H. E. (2004). Weakness and strength training in persons with poststroke hemiplegia: Rationale, method, and efficacy. *Journal of Rehabilitation Research & Development, 41*: 293-312.

Phipps S & Richardson P (2007). Occupational Therapy outcomes for clients with traumatic brain injury and stroke using the Canadian Occupational Performance Measure. *American Occupational Therapy of Occupational Therapy,* Vol 61 (3): 328-334.

Phipps, S & Roberts, P (2012) Motor Learning. In H.Pendleton & W. Schultz-Krohn, (Eds.), Pedretti's Occupational Therapy: Practice Skills for Physical Dysfunction. St. Louis, Missouri: Elsevier Mosby, 7th edition.

Pollock, A. S., Durward, B. R., Rowe, P. J. & Paul, J. P. (2000). What is balance? *Clinical Rehabilitation, 14 (4)*: 402-406.

Richards, L. G., Lathan, N. K., Jette, D. U., Rosenberg, L., Smout, R. J., & DeJong, G. (2005). Characterizing Occupational Therapy Practice in Stroke Rehabilitation. *Archives of Physical Medicine and Rehabilitation, 86 (12) Supplement*: *51-60.*

Rothgangel AS, Braun SM, Beurskens AJ, Seitz RJ, & Wade DT (2011). The clinical aspects of mirror therapy in rehabilitation: a systematic review of the literature. *International Journal of Rehabilitation Research*, Vol 34 (1): 1-13.

Ryerson, S. & Levit, K. (1997). *Functional Movement Reeducation: A Contemporary Model for Stroke Rehabilitation.* Chapters 1 & 2, pg. 1-53.

Sabari, J. S. (2008). Optimizing motor skill using task-related training. In Radomski, M. V. & Latham, C. A. T. (Eds.), *Occupational Therapy for Physical Dysfunction*, 6th edition, (pp. 618-641). Philadelphia: Lippincott Williams & Wilkins.

Sanford J, Moreland J, Swanson LR, Stratford PW, & Gowland C, (1993). Reliability of the Fugl-Meyer Assessment for testing performance in patients following stroke. *Physical Therapy*, 73: 447-454.

Stinear, C. (2010). Prediction of recovery of motor function after stroke. *Lancet Neurology*, 9: 1228-1232.

Steultjens, E. M. J., Dekker, J., Bouter, L. M., van de Nes, J. C. M., Cup, e. H. C., & van den ende, C. H. M. (2003). Occupational therapy for stroke patients: A systematic review: Occupational therapy for stroke patients: When, where, and how? *Stroke, 34*: 676-687.

Stoeckmann T (2001). Casting for the person with spasticity. Topics in Stroke Rehabilitation, 8 (1): 27-35.

Sullivan, KJ, Tilson JK, Cen SY, Rose DK, Hershberg J, Correa A, Gallicho J, McLeod M, Moore, C, Wu SS and Duncan PW (2011). Fugl-Meyer Assessment of sensorimotor function after stroke. *Stroke*, 42: 427-432.

Verheyden, G., Nieuwboer, A., Mertin, J., Preger, R., Kiekens, C., De Weerdt, W. (2004). The trunk impairment scale: A new tool to measure motor impairment of the trunk after stroke. *Clinical Rehabilitation, 18*: 326-334.

Wiles, R., Ashburn, A., Payne, S., & Murphy, C. (2004). Discharge from physiotherapy following stroke: The management of disappointment. *Social Science & Medicine*, 59, 1263-1273.

Wolf SL, Catlin PA, Ellis M, Archer AL, Morgan B, & Piacentino A (2001). Assessing Wolf Motor Function Test as outcome measure for research in patients after stroke. *Stroke*, 32: 1635-1639.

Velozo CA & Woodbury ML (2011). Translating measurement findings into rehabilitation practice: An example using Fugl-Meyer Assessment-Upper Extremity with patients following stroke. *Journal of Rehabilitation Research & Development*, Vol 48 (10): 1211-1222.

Statement on Academic Conduct and Support Systems

Academic Conduct:
Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in *SCampus* in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in *SCampus* and university policies on scientific misconduct, http://policy.usc.edu/scientific-misconduct.

Support Systems:
Student Counseling Services (SCS) – (213) 740-7711 – 24/7 on call
Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention. engemannshc.usc.edu/counseling

National Suicide Prevention Lifeline – 1 (800) 273-8255
Provides free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week. www.suicidepreventionlifeline.org

Relationship and Sexual Violence Prevention Services (RSVP) – (213) 740-4900 – 24/7 on call
Free and confidential therapy services, workshops, and training for situations related to gender-based harm. engemannshc.usc.edu/rsvp

Sexual Assault Resource Center
For more information about how to get help or help a survivor, rights, reporting options, and additional resources, visit the website: sarc.usc.edu

Office of Equity and Diversity (OED)/Title IX Compliance – (213) 740-5086
Works with faculty, staff, visitors, applicants, and students around issues of protected class. equity.usc.edu

Bias Assessment Response and Support
Incidents of bias, hate crimes and microaggressions need to be reported allowing for appropriate investigation and response. studentaffairs.usc.edu/bias-assessment-response-support

The Office of Disability Services and Programs
Provides certification for students with disabilities and helps arrange relevant accommodations. dsp.usc.edu

Student Support and Advocacy – (213) 821-4710
Assists students and families in resolving complex issues adversely affecting their success as a student EX: personal, financial, and academic. studentaffairs.usc.edu/ssa

Diversity at USC
Information on events, programs and training, the Diversity Task Force (including representatives for each school), chronology, participation, and various resources for students. diversity.usc.edu

USC Emergency Information
Provides safety and other updates, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible. emergency.usc.edu

USC Department of Public Safety – UPC: (213) 740-4321 – HSC: (323) 442-1000 – 24-hour emergency or to report a crime.
Provides overall safety to USC community. dps.usc.edu