

National Taiwan University
School and Graduate Institute of Physical Therapy
Course Syllabus in Seminar in Dynamic Joint Stability/ 2009

Course Number: 428 M1600

Course Name: Seminar in Dynamic Joint Stability (II)

Course Credit: 1

Instructors: Wang S-F Office : Room 310, phone: 33668139

Year Level: Master students

Schedule & Place: **Thursday 5:00-6:00 pm**

Seminar Room in the School of Physical Therapy

Course Description:

The classical approach to understand the structure and function of the human body is based on anatomical dissection. This approach has gained much information about the global muscles of the body. Recent emphasis is on the deep core muscles and their roles in dynamic joint stability. The focus of this seminar is to target this current issue. The structure and function of the spines will be discussed in terms of morphology, biomechanics and motion analysis. Clinical evaluation, therapeutic exercise, surgical intervention, and biomechanical model will be reviewed and discussed in the form of case study.

General Objectives of the Course:

After completing this course, the students would be able to

1. understand the structure and function of spines.
2. understand the biomechanics and motor control of the static and dynamic joint stability.
3. understand the surgical approaches and biomechanical model of the spines.
4. understand the role of deep muscles in spinal stability.
5. understand the development, current issues, and future trends in basic and clinical approaches of dynamic spinal stability.

Contents:

Time	Topic	Instructor
Week 1 9/16	Introduction- spines: structure, biomechanics and function; development, issues and trends	Dr. Wang
Week 2 9//23	Case discussion and literature review (I)	Drs. Wang

Week 3 9/30	Case discussion and literature review (II)	Dr. Wang
Week 4 10/07	Case discussion and literature review (III)	Dr. Wang
Week 5 10/14	Case discussion and evaluation of spinal problem (I)	Dr. Wang
Week 6 10/21	Case discussion and evaluation of spinal problem (II)	Dr. Wang
Week 7 10/28	Case discussion and evaluation of spinal problem (III)	Dr. Wang
Week 8 11/04	Case discussion and physical therapy for spinal pain (I)	Dr. Wang
Week 9 11/11	Case discussion and physical therapy for spinal pain (II)	Dr. Wang
Week 10 11/18	Case discussion and physical therapy for spinal pain (III)	Dr. Wang
Week 11 11/25	Case discussion and physical therapy for spinal pain (IV)	Dr. Wang
Week 12 12/02	Case discussion and image of spinal disorders	Dr. Lai
Week 13 12/09	Case discussion and surgical approaches for spinal disorder	Dr. Young
Week 14 12/16	Case discussion and post-surgical treatment for spinal disorders	Dr. Wang
Week 15 12/23	Case discussion and biomechanical model of spine:	Dr. Wang CL
Week 16 12/30	Case discussion and motion analysis of spinal motion	Dr. TW Lu
Week 17 1/06	Case discussion and ICF model in spinal disorder	Dr. Wang
Week 18 1/13	Final report	Dr. Wang

Grading System:

Mid-term report and participation: 50%

Final report: 50%

Mid-term report: literature review

Final report: complete a case study in FJPT.

Instruction for case study:

A. Typical examples of case study:

B. Initial evaluation:

Mechanical diagnosis:

1. Facet syndrome (including degenerative change or instability) with movement induced pain in specific direction will be classified following the rule of couple movement and Multigan principle.
2. Muscle and soft-tissue induced movement pain will be classified followed the principle of non-contractile and contractile tissue pain.
3. Nerve involvement induced by increase tension will be classified following neurodynamic principle.
4. Disc related injury will be classified followed by the principle of McKenzie method, and principle of centralization.

C. Follow up:

1. Functional specific pain score
2. Disability index
3. ICF concept

D. Using the chart with ICF concept.