PHTY613: Human Structure and Function for Physiotherapy II
Summative Assessment 1: Verbal Assessment

Assessment Date: Wednesday 28th – Friday 30th October

Assessment Duration: 15 minutes (13 minutes + 2 minutes preparation time)

Purpose: To assess the ability of the student to apply their anatomical knowledge, as well as knowledge of theoretical concepts of the neuromusculoskeletal system, to simple clinical scenarios

Learning Outcomes:

LO1: Apply anatomical knowledge of specific body systems to physiotherapy practice.

LO2: Apply knowledge and theoretical concepts of the neuromusculoskeletal systems to simple clinical scenarios.

Below is a series of clinical scenarios related to normal structure and function of the neuromusculoskeletal systems. You will be presented with one (1) of these clinical scenarios at the commencement of the verbal assessment.

You are able to bring to the assessment a maximum of one one-sided A4 sheet per clinical scenario (total of six one-sides pages). It is recommended that the content summarises information relevant to the learning outcomes and addresses the marking criteria.

Clinical Scenarios

Neurological System

Gemma

Gemma is a 19-year-old student. She is walking to university with her friends. She has her backpack on her back and is carrying her sports bag. Her sports bag gets caught on a fence post unexpectedly.

Consider the following questions:

1. When thinking about the systems model of motor control, what factors could influence Gemma's ability to successfully carry out the task of walking to university?
2. What components of the nervous system are involved in voluntary movement as Gemma is walking to university?
3. For each of the components you have outlined in point 2, consider the key structures that could be involved in this situation.

Josh

Josh is a 60-year-old man who is sleeping at home. He wakes up in the middle of the night to go to the toilet. He does not turn the lights on but is able to navigate his way down the carpeted hallway. However, on his way back, he stubs his toe.

Consider the following questions:

1. When thinking about the systems model of motor control, what factors could influence Josh's ability to walk down the hallway?
2. What components of the nervous system are involved in voluntary movement as Josh is walking to the toilet?
3. For each of the components you have outlined in point 2, consider the key structures that could be involved in this situation.

Mere

Mere is a 24-year-old female who is very excited to be returning to club rugby after a year away from the game having recently had a baby. She is going to be playing in a new position within the team (lock) which will require her to learn new skills. Mere is practicing reaching for the ball from high overhead during a line out.

Consider the following questions:

1. When thinking about the systems model of motor control, what factors could influence Mere's ability to successfully carry out the movement of reaching for the ball from high overhead during a line out?
2. What components of the nervous system are involved in voluntary movement as Mere is reaching up overhead and learning new skills?
3. For each of the components you have outlined in point 2, consider the key structures that could be involved in this situation.

Clinical Scenarios

Peripheral Musculoskeletal System

Mere

Mere is 24 -year-old female who is very excited to be returning to club rugby after a year away from the game having recently had a baby. She is going to be playing in a new position within the team (lock) which will require her to learn new skills. Mere is practicing reaching for the ball from high overhead during a line out.

Consider the following questions:

- When thinking about the systems model of motor control, what factors could influence Mere's ability to successfully carry out the movement of reaching for the ball from high overhead during a line out?
- What movements need to occur at the shoulder complex for her to reach the ball high overhead?
- How does the structure of the shoulder complex allow for this to happen? (Consider the structure of the bones, joints, and muscles in your response)
- What type of muscle contraction are the prime movers (agonists), acting on the shoulder during this movement, undergoing? In what range is this muscle work occurring during this movement?

Shelley

Shelley is a 55-year-old female, who has recently started a job as a teacher aide, working in an early childhood centre. This is a completely new occupation for her, having previously worked in a supermarket, packing shelves. Shelley needs to be able to perform a deep squat to sit down into and get back out of a low (small) chair when she is at work.

Consider the following questions:

- When thinking about the systems model of motor control, what factors could influence Shelley's ability to successfully carry out the movement of sitting down into, and getting back out of, a low (small) chair?
- What movements need to occur at the hip region for her to be able to sit down into and get back out of a low (small) chair?
- How does the structure of the hip region allow for this to happen? (Consider the structure of the bones, joints, and muscles in your response)
- What type of muscle contraction are the prime movers (agonists), acting on the hip region during this movement, undergoing? In what range is this muscle work occurring during this movement?

Greg

Greg is a 70-year-old, semi-retired kaumātua (Māori elder). He still assists his whānau (family) on their large farm. Greg's whānau have just purchased him a new tractor for him to use for work-related tasks on the farm. Greg needs to be able to clear the step on the side of the tractor, and to step up and accept his body weight on his left foot once he has stepped up.

Consider the following questions:

- When thinking about the systems model of motor control, what factors could influence Greg's ability to successfully move his ankle and foot to clear the step of the ladder, and to accept body weight on his left foot once he has stepped up?
- What movements need to occur at the ankle and foot region for him to be able to clear the step of the tractor and to accept weight on his left foot once he has stepped up?
- How does the structure of the ankle and foot region allow for this to happen? (Consider the structure of the bones, joints, and muscles in your response)
- What type of muscle contraction are the prime movers (agonists), acting on the ankle and foot during this movement, undergoing? In what range is this muscle work occurring during this movement?

Marking Criteria:

Learning Outcome	A Range	B Range	C Range	D
LO1 Apply anatomical knowledge of specific body systems to physiotherapy practice	Comprehensive and accurate application of anatomical knowledge of structure and function for the specific body system/s Prompting seldom required	Good detail, and mostly accurate application (few errors and/or omissions) of anatomical knowledge of structure and function for the specific body system/s Additional prompting required to show understanding	Adequate detail and some accurate application (several errors and/or omissions) of anatomical knowledge of structure and function for the specific body system/s Prompting required frequently to elicit basic understanding	Inadequate and often inaccurate application (significant errors and/or omissions) of anatomical knowledge of structure and function for the specific body system/s Unable to apply knowledge despite maximal prompting
LO2 Apply knowledge and theoretical concepts of the neuromusculoskeletal systems to simple clinical scenarios	Comprehensive and mature integration of anatomy and theoretical concepts of motor control to the clinical scenario Prompting seldom required	Good integration of anatomy and theoretical concepts of motor control to the clinical scenario Additional prompting required to show understanding	Adequate integration of anatomy and theoretical concepts of motor control to the clinical scenario Prompting required frequently to elicit basic understanding	Inadequate integration of anatomy and theoretical concepts of motor control to the clinical scenario Unable to apply knowledge despite maximal prompting
	Demonstrates Professional behaviour, respect, and cultural awareness, including the integration of appropriate kupu (words) in te reo Māori.			Inadequate/ inappropriate professional behaviour, respect and/ or cultural awareness. Unable to integrate kupu (words) in te reo Māori