



PROGRAM : BACCALAUREUS TECHNOLOGIAE
PODIATRY

SUBJECT : **PODIATRIC ORTHOTICS THEORY**

CODE : **PKSD 211**

DATE : NOVEMBER 2016 EXAMINATION

DURATION : 180 MINUTES

WEIGHT : 50:50

TOTAL MARKS : 156

EXAMINER : MS M. MOOTHEE

MODERATOR : MR S. NTULI

NUMBER OF PAGES : 4

INSTRUCTIONS

- ANSWER ALL QUESTIONS
- MARKS WILL BE ALLOCATED FOR A CLEAR AND LOGICAL EXPOSITION OF THE ANSWER
- PLEASE HAND IN ALL QUESTION AND ANSWER PAPERS TO THE INVIGILATOR

QUESTION 1:

1.1. State whether the following statements are TRUE or FALSE:

- 1.1.1. The use of Personal protective equipment (PPE) in the orthotic lab is mandatory. (2)
 - 1.1.2. Durometer measures the thickness of a material. (2)
 - 1.1.3. Thermoplastic is a base material that is highly resilient to deformation, it has 3-4mm and 2-2.5mm thickness. (2)
 - 1.1.4. Poron and durahyde are forms of covering materials. (2)
 - 1.1.5. There are 8 criteria for normalcy with one being “The bisector of the posterior surface of the calcaneus is perpendicular. (2)
 - 1.1.6. Resting stance calcaneal position and neutral calcaneal stance are both examinations that form part of a weight bearing biomechanical examination. (2)
 - 1.1.7. One of many critics towards the Root theory is the validity of the method for determining the neutral position. (2)
 - 1.1.8. Range of motion examination, muscle strength and gait analysis form part of Non- weight bearing biomechanical examination. (2)
 - 1.1.9. RCSP is the angulation of the bisection of the calcaneus observed in relation to the ground while the foot is held in subtalar joint neutral position. (2)
 - 1.1.10. A disadvantage of non-weight bearing neutral impression casting is that it is time consuming and messy. (2)
- (20)

1.2. How would you explain the following:

- 1.2.1. Occupational Health and Safety in the Laboratory? (1x3=3)
 - 1.2.2. Neutral calcaneal stance position? (1x3=3)
 - 1.2.3. Resting calcaneal stance position? (1x3=3)
 - 1.2.4. Subtalar joint neutral position? (1x3=3)
 - 1.2.5. Orthoses? (1x3=3)
- (15)

1.3. Describe how you would undertake a template measurement?

(6x2=12)

1.4. Identify and describe the six steps involved in taking a neutral impression cast?

(6x2=12)

[59]

QUESTION 2:

A 66-year old women presents with tender bunions affecting both feet. Examination reveals severe Hallux Abducto Valgus deformity and overriding of the second digits affecting both feet. She stated that her bunions had progressively enlarged over the years and it has caused her difficulty finding shoes that fit perfectly. As part of your treatment plan you decide to manufacture accommodative orthotics for this patient.

2.1. List the three functions of an accommodative orthotic?

(1x3=3)

2.2. List three goals which you should keep in mind when prescribing an accommodative device?

(1x3=3)

2.3. Tabulate the differences between accommodative and functional orthoses?

(3x4=12)

2.4. Advice this patient on the ideal characteristics she should look for when buying footwear to accommodate her foot condition?

(1x6=6)

2.5. List six purposes of shoe modifications?

(1x6=6)

2.6. List four types of upper shoe modifications and their aims?

(4x2=8)

2.7. Describe to this patient three ideal shoe characteristics that are required for an accommodative device?

(1x4=4)

[42]

QUESTION 3:

A 32- year old male long distance runner, complains of painful heels for a duration of some months, the pain has progressively become worse as it now radiates into his arches. He reports no specific injury and describes the pain as sharp and usually worse first thing in the morning. With exercise his pain diminishes, reoccurs after rest. He has had custom made insoles made for him, however they have worn out in one month of using them. Resting calcaneal stance position reveals significant pes planus and everted calcaneus in relation to the ground.

- 3.1. What would be your possible diagnosis? (2)
- 3.2. Based on your answer in 3.1. what type of orthotic would you manufacture for this patient? (2)
- 3.3. Provide the motivation for your chosen orthotic in 3.2 above (1x4=4)
- 3.4. Mention the type of material you have chosen for your orthotic and motivate your answer? (2x2=4)
- 3.5. Advice your patient on an ideal running shoe, provide one example and motivate why these running shoes will best suit your patients foot condition? (5)
- 3.6. Differentiate between custom made orthoses, prefabricated orthoses and computer- generated orthoses? (2x3=6)
- 3.7. Identify eight factors that are considered essential when prescribing custom foot orthoses. Explain in one sentence why each factor is important. (2x8=16)
- 3.8. Describe the 'Eight criteria for normalcy' based on the Root theory? (1x8=8)
- 3.9. Mention four criticisms that may be directed towards the Root theory? (4)
- 3.10. Differentiate between Intrinsic and Extrinsic posting? (2x2=4)

[55]

GRAND TOTAL: 156 MARKS