POR4ULO 2013

Enquiry 2:
Wrist Hand Orthosis Assignment

Learning Objectives: Relevant to Enquiry 2

In the various components of the first assessment task you will demonstrate the ability to:

1	Select an orthotic design, and justify this selection, for a range of pathologies affecting the upper limb commonly treated in orthotic practice a. Identify a wide variety of pathologies affecting the upper limb and shoulder girdle including: traumatic, neurological and musculoskeletal b. Describe common mechanisms of injury and pathophysiology affecting the upper limb and shoulder girdle c. Describe and communicate the clinical presentation of common pathologies affecting the upper limb and shoulder girdle d. Describe and communicate the role of orthotic intervention, as part of the clinical team to manage common pathologies affecting the upper limb and shoulder girdle
2	Conduct a safe clinical assessment and analyse findings from subjective and objective evaluations to determine clinical outcomes possible for a person with an upper limb pathology a. Conduct a subjective examination of a person with an upper limb pathology and in doing so demonstrate good interpersonal and communication skills b. Perform a safe, detailed objective examination of a person with an upper limb pathology c. Record and articulate relevant clinical findings from the clinical assessment of a person with an upper limb pathology d. Clearly define and articulate possible clinical outcomes for a person with an upper limb pathology
3	Prescribe an orthosis to meet the treatment objectives for a given upper limb pathology and in doing so, articulate a strong and well evidenced rationale to justify the orthotic prescription a. Identify the goals of orthotic treatment for a range of pathologies affecting the upper limb b. Compare the relative advantages and disadvantages of various custom made and prefabricated orthoses to meet these treatment goals for a variety of upper extremity pathologies c. Prescribe orthoses to manage the treatment objectives for a range of common upper limb pathologies
4	Plan treatment incorporating a given orthosis for a person with an upper limb pathology a. Interpret findings from a safe clinical assessment as options for treatment of upper limb deficit b. Design an orthosis to meet the treatment objectives and plan the manufacture of this device where appropriate c. Review the design against the biomechanical deficit d. Safely undertake a cast of the upper limb and evaluate the quality of the completed cast in terms of trimlines, alignment, position and finish
5	Communicate to an audience of peers a justification for use of an orthosis to manage common pathology affecting the upper limb for a given client a. Write a clinical referral for hand therapy that demonstrates an ability write for a professional audience, synthesise information from various sources of professional literature (e.g., journal articles and texts) and develop a logical train of thought for a given

	topic related to orthotic management of the upper limb. b. Communicate a referral for other treatment interventions, e.g., occupational therapy where appropriate

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Overview

In this enquiry you will be required to develop a case study that centres around the upper limb. You will research and develop a written assignment based on the orthotic management of your case study. Following this the design and technical drawings (including force systems) for your device will be developed. You will then produce a cast (Plaster of Paris) and a Low Temperature Thermoplastic Wrist Hand Orthosis (LTT WHO) that are clinically appropriate to your case study and document the manufacturing process. You will undertake a fitting, complete a relevant outcome measure and critique of the device and document this. This material will be uploaded as per the timetable to your wikiversity page and you will present this during the last week of semester.

Assessment and Submission

Each student will have time to develop a case study in week 1. This case study should be directed toward a pathology that is common in presentation to the wrist hand and may benefit from some type of orthotic management.

Students are required to search for literature on the pathology to determine the most appropriate / preferred prescription for an upper limb orthosis ; including optimal angular positions to be maintained by the orthosis and level of function (e.g., ROM) to be achieved when using the device.

Students are required to:

1. Develop the case study.
2. Provide written evidence for orthotic management of your case study (1500 words)
3. Develop a design for the orthosis
   a. Design should include drawings, force systems, trim lines, straps

4. Fabricate and Fit an upper limb orthosis to accommodate your pathology
   a. Manufacturing procedure should be documented through photos or video and enable the device to be made again.
   b. A fit and adjustment of the orthosis should be documented
   c. Outcome measure for the device should be undertaken and performance in this should be used to determine functional outcome of the device
   d. The functional aims of device should be assessed against prescription goals with client

5. Critique the device: this should be done in a clinically appropriate format and documented via photo or video
6. Present your wikipage in a 10 minute presentation in the last week of semester.

<u>Submission:</u> The Wrist Hand Project will be completed on presentation of your case study in the last week of semester . Week by week submission of the various stages are as follows.

1. Case study written assignment 1500 words to be submitted Thursday 27th of March at 4pm
2. Functional Aims and Goals to be submitted Thursday the 10th of April 4pm
3. Submission of technical design, drawings and manufacturing process to be submitted by Thursday the 1st of May at 4pm

4. Referral letter and supporting documentation – see below for presentation guidelines
5. HDPE WHO

Submission of these components is by uploading these to the wikipage, the documents must be uploaded by the due date and time. You will be able to undertake minor edits to your submissions if needed after uploading. If you have computer issues please ensure that you contact the subject coordinator as soon as possible.

Assessment: The following criteria will be used in assessment of the assignment. Marks are awarded on the following basis:

Case Study Assignment 1500 words 40%
Assessed on the Level 4 Marking Matrix

Manufacturing of Upperlimb orthosis 60%
See marking matrix

Functional Aims and Goals 10%

Fabrication and technical skills 10%

Fitting and evaluation 10%

Outcome measure 5%

Clinical understanding 5%

Professional Communication 5%

Presentation 5%

Learning pathway
See timetable

Recommended reading

Lecture notes and review articles on the LMS.