MODULE 5

Course Outline (Modules & Tentative Schedule)

Teaching Faculty

Chou Siaw Meng School of Mechanical and Production Engineering Nanyang Technological University

James Goh Dept of Orthopaedic Surgery National University of Singapore

Khong Kok Sun Dept of Orthopaedic Surgery Alexandra Hospital

Michael Khor School of Mechanical and Production Engineering Nanyang Technological University

Lo Ngai Nung Dept of Orthopaedic Surgery Singapore General Hospital

Low Hong Tong Dept of Mechanical Engineering National University of Singapore

Dominic Tey Dept of Orthopaedic Surgery National University of Singapore

Ashvin Thambyah Dept of Orthopaedic Surgery National University of Singapore

Min Wang School of Mechanical and Production Engineering Nanyang Technological University

Wilson Wang Dept of Orthopaedic Surgery Singapore General Hospital

Yeo Seng Jin Dept of Orthopaedic Surgery Singapore General Hospital

Chairman

A/Prof Chou Siaw Meng Tel: 790 4958 Fax: 794 4605 E-mail: msmchou@ntu.edu.sg Module 1 (Completed) Analysis of Muscle and Joint Loads (17 & 18 September 1999)

Module 2 (Completed) Musculoskeletal Dynamics, Locomotion and Clinical Applications (25 & 26 February 2000)

Module 3 (Completed) Bone Mechanics: Assessing Failure Risk and Understanding Fracture Fixation (30 June & 1 July 2000)

Module 4 (Completed) Biomechanics of Musculoskeletal Soft Tissue: Tendon, Ligaments, Meniscus and Cartilage (17 & 18 November 2000) Module 5 Biomaterials and Joint Replacement of Lower Limb (16 & 17 March 2001)

Module 6 Biomechanics of Diarthrodial Joints and Joint Replacements II: Upper Limb (May 2001)

Module 7 Biomechanics of the Spine and Spinal Implants and Instrumentations (Aug 2001)

Module 8 Prosthetics and Orthotics _ Principles and Applications (Nov 2001)

For enquiries, please contact:

SGH Postgraduate Medical Institute Singapore General Hospital Blk 6 Level 1, Outram Road Singapore 169608

Tel: 326 6682 Fax: 223 9789 Email: gteekc@sgh.com.sg Attn: Ms Angie Enge

Accredited for 4 CME points

Orthopaedic Biomechanics Course

In conjunction with the Orthopaedic Advanced Surgical Training Syllabus

Module 5

.

Biomaterials and Joint Replacement of Lower Limb

Date:16 & 17 Mar 2001 (Friday & Saturday)Time:Day 1 - 1230 to 1700 hDay 2 - 0900 to 1500 hVenue:Symposium Rooms 2 & 3, Level 1CRC Building, Faculty of Medicine
National University of Singapore

Organised By

Departments of Orthopaedic Surgery of National University of Singapore & Singapore General Hospital

School of Mechanical & Production Engineering Nanyang Technological University

Organising Secretariat

SGH Postgraduate Medical Institute

Supported by

Specialist Training Committee (Orthopaedics) Singapore Orthopaedic Association Biomedical Engineering Society



riday	, 16 March 2001 (Day 1: 1230 – 1700 hours)				
230	REGISTRATION		1450	BIOMATERIALS TUTORIAL 1	J Goh
300	PRE-COURSE ASSESSMENT	S M Chou	1510	TEA BREAK	
330	HISTORY AND STRUCTURE OF BIOMATERIALS	M Khor	1530	JOINT LUBRICATION	H T Low
1350	IATERIALS FOR IMPLANTS AND THEIR		1550	IMPLANT FIXATION IN BONE (INGROWTH, CEMENT)	N N Lo
	MECHANICAL BEHAVIOUR (METALLIC, CERAMIC, OTHERS, POLYMERIC)	M Khor	1610	HOST RESPONSE TO BIOMATERIALS	W Wang
410	WEAR AND CORROSION OF ORTHOPAEDIC BIOMATERIALS	M Wang	1630	BIOMATERIALS TUTORIAL 2	J Goh
430	FATIGUE FAILURE	M Wang	1700	END OF DAY 1	
	1 - 17 N = 1 - 0.001 (D) = 0.0000 - 1700 (D)				
aturo	lay, 17 March 2001 (Day 2: 0900 – 1500 hours)				
aturo 900	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT	J Goh	1120	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS	S J Yeo
aturo 900 920	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT	J Goh C J Goh	1120 1140	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS	S J Yeo J Goh
aturo 900 920 940	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT SURGICAL TECHNIQUE IN HIP	J Goh C J Goh	1120 1140 1200	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS LUNCH	S J Yeo J Goh
aturo 900 920 940	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT SURGICAL TECHNIQUE IN HIP REPLACEMENT - BIOMECHANICAL IMPLICATIONS	J Goh C J Goh N N Lo	1120 1140 1200 1300	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS LUNCH PRACTICAL WORKSHOP 1: TOTAL HIP RI N N Lo, S J	S J Yeo J Goh EPLACEMENT Yeo, K S Khong
aturo 900 920 940 000	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT SURGICAL TECHNIQUE IN HIP REPLACEMENT - BIOMECHANICAL IMPLICATIONS BIOMECHANICS OF THE KNEE JOINT A	J Goh C J Goh N N Lo . Thambyah	1120 1140 1200 1300	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS LUNCH PRACTICAL WORKSHOP 1: TOTAL HIP RI N N Lo, S J Y Venue: Seminar Room #03-01A	S J Yeo J Goh EPLACEMENT Yeo, K S Khong 1, Level 3, CRC
aturo 900 920 940 000 020	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT SURGICAL TECHNIQUE IN HIP REPLACEMENT - BIOMECHANICAL IMPLICATIONS BIOMECHANICS OF THE KNEE JOINT A DESIGN CONSIDERATIONS IN PROSTHETIC KNEE JOINT	J Goh C J Goh N N Lo Thambyah C J Goh	1120 1140 1200 1300 1400	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS LUNCH PRACTICAL WORKSHOP 1: TOTAL HIP RI N N Lo, S J Y Venue: Seminar Room #03-01A PRACTICAL WORKSHOP 2: MECHANICA TOTAL KNEE REPLACEMENTS	S J Yeo J Goh EPLACEMENT Yeo, K S Khong A, Level 3, CRC L TESTING OF
aturc 900 920 940 000 020 040	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT SURGICAL TECHNIQUE IN HIP REPLACEMENT - BIOMECHANICAL IMPLICATIONS BIOMECHANICS OF THE KNEE JOINT A DESIGN CONSIDERATIONS IN PROSTHETIC KNEE JOINT TEA BREAK	J Goh C J Goh N N Lo Thambyah C J Goh	1120 1140 1200 1300 1400	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS LUNCH PRACTICAL WORKSHOP 1: TOTAL HIP RI N N Lo, S J Y Venue: Seminar Room #03-01A PRACTICAL WORKSHOP 2: MECHANICA TOTAL KNEE REPLACEMENTS A Thambya	S J Yeo J Goh EPLACEMENT Yeo, K S Khong J, Level 3, CRC L TESTING OF h, J Goh, D Tey
aturo 900 920 940 000 020 040	lay, 17 March 2001 (Day 2: 0900 – 1500 hours) BIOMECHANICS OF THE HIP JOINT DESIGN CONSIDERATIONS IN PROSTHETIC HIP JOINT SURGICAL TECHNIQUE IN HIP REPLACEMENT - BIOMECHANICAL IMPLICATIONS BIOMECHANICS OF THE KNEE JOINT A DESIGN CONSIDERATIONS IN PROSTHETIC KNEE JOINT TEA BREAK SURGICAL TECHNIQUE IN KNEE	J Goh C J Goh N N Lo Thambyah C J Goh	1120 1140 1200 1300 1400	LONG-TERM RESULTS OF HIP AND KNEE REPLACEMENTS BIOMECHANICS TUTORIALS LUNCH PRACTICAL WORKSHOP 1: TOTAL HIP RI N N Lo, S J Y Venue: Seminar Room #03-01A PRACTICAL WORKSHOP 2: MECHANICA TOTAL KNEE REPLACEMENTS A Thambyal	S J Yeo J Goh EPLACEMENT Yeo, K S Khong A, Level 3, CRC L TESTING OF h, J Goh, D Tey ory, B1-18, CRC

REGISTRATION **O**rthopaedic **B**iomechanics **C**ourse Module 5 **Biomaterials and Joint Replacement of Lower** Limb Name: Designation: Dept/Organisation: Address: Tel no: Fax no: Pager no: E-mail: X Please indicate interest I would like to register for Module 5. The registration fee is S\$250/- (includes GST) I would like to purchase the reference text by Mow and Hayes entitled: "Basic Orthopaedic Biomechanics" @ S\$210.00 per copy (not included in the registration fee). (The cost of the book includes courier delivery charges. Due to the specialised nature of the book, there may be a possible waiting period of up to 6 weeks to process the orders.)

Please enclose cheque made payable to Nanyang Technological University and mail together with this registration form to:

SGH Postgraduate Medical Institute Singapore General Hospital Blk 6 Level 1, Outram Road Singapore 169608