

MUSCULOSKELETAL AND SPORTS SCIENCES II

| | | |
|---|--|-----------------------|
| Course Title | MUSCULOSKELETAL AND SPORTS SCIENCES II | |
| Course Code | PT602 | |
| Course Credit | Lecture: 4 | |
| | Practical/ Clinical Training: 2 | |
| | Total: 6 | |
| Course Objectives | | |
| <ol style="list-style-type: none"> 1. To be able to perform detailed assessment and treatment of musculoskeletal and sports conditions of Upper limb and Spine. 2. To obtain advance skill in Musculoskeletal Physiotherapy for prevention and treatment of the disease. 3. Gain and share insight on sports injury assessment and management. | | |
| # | Detailed Syllabus | Hours Allotted |
| Section I | | |
| 1 | Introduction to Musculoskeletal and Sports science | 2 |
| 2 | Basic of Musculoskeletal and Sports assessment - patients history, observation, palpation, Examination, scanning examination, examination of specific joints, functional assessment, specific tests, reflexes and cutaneous distribution, joint play movements, diagnostic imaging. | 16 |
| 3 | Musculoskeletal conditions of head and neck component, cervical and thoracic spine : Clinical Manifestations : definition, classification, aetiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions medical, surgical and physiotherapy management (assessment and treatment) of | |
| | Fractures of Skull bones, mandible etc. | 2 |
| | Dislocation or subluxation of Temporo mandibular joint etc. | 2 |
| | Arthropathies - cervical spondylitis, spondylosis etc. | 9 |
| | Infectious disorders of bones and joints | 2 |
| | Congenital disorders – Torticollis, Klippel – feil syndrome, cervical rib etc. | 6 |
| | Regional conditions of neck – Brachial neuralgia, thoracic outlet syndrome, trapezitis, upper cross syndrome, Prolapse of intervertebral disc etc. | 14 |
| Disease of joints - Infective, rheumatoid, metabolic, arthritis in | 6 | |

| | | |
|-------------------|---|----|
| | systematic disorders etc. | |
| 4 | Musculoskeletal conditions of thoracic cage : Clinical manifestation : definition, classification, aetiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions medical, surgical and physiotherapy management (assessment and treatment) of | |
| | Fracture of ribs | 3 |
| | Dislocation or subluxation of the sternoclavicular joint | 2 |
| Section II | | |
| 5 | Musculoskeletal conditions of Shoulder and Upper Arm component : Clinical manifestation: definition, classification, aetiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions medical, surgical and physiotherapy management (assessment and treatment) of | |
| | Fracture of clavicle, Fracture of scapula, Fracture of surgical neck of humerus, Fracture of greater tuberosity of humerus, Fracture of shaft of humerus, Fractures around shoulder in children etc. | 6 |
| | Dislocation of the shoulder joint, Recurrent dislocation of the shoulder joint, Dislocation or subluxation of the acromioclavicular joint etc. | 4 |
| | Regional conditions of shoulder – Frozen shoulder, Painful arc syndrome, Periarthritis of Shoulder joint, supraspinatus syndromes, rupture of rotator cuff, deltoid fibrosis, Shoulder impingement syndrome etc. | 6 |
| | Amputations - Shoulder disarticulation, above elbow amputation | 2 |
| | Deformities – Sprangel's shoulder | 2 |
| | Arthroplasty – Total Shoulder replacement | 2 |
| | Orthosis and prosthesis used for Musculoskeletal conditions of Shoulder and upper Arm component | 02 |
| 6 | Musculoskeletal conditions of Elbow and Forearm component : Clinical manifestation : definition, classification, aetiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions medical, surgical and physiotherapy management (assessment and treatment) | |

| | | |
|---|---|----|
| | of | |
| | Supracondylar Fracture of humerus, Fracture of medial or lateral condyle of humerus, Intercondyler Fracture of humerus of forearm bones, fracture of olecrenon, fracture of capitulum, fracture of head of radius, Fracture of neck of radius, Monteggia fracture – dislocation, Galeazzi fracture – dislocation etc. | 08 |
| | Dislocation of radius (Pulled elbow), Dislocation of radio ulnar joint, Dislocation of Elbow joint etc. | 02 |
| | Regional conditions of elbow – Golfer's Elbow, Tennis Elbow, Student's Elbow etc. | 02 |
| | Amputations - Below elbow amputation, Elbow disarticulation, krukenburg's amputationetc. | 02 |
| | Deformities – Cubitus varus or valgus etc. | 02 |
| | Orthosis and prosthesis used for Musculoskeletal conditions of Elbow and Forearm component | 02 |
| 7 | Musculoskeletal conditions of Wrist and Hand complex : Clinical manifestation : Definition, Classification, aetiology, pathogenesis, clinical features, clinical investigation and complications of the following conditions Medical, surgical and physiotherapy management (assessment and treatment) of | |
| | Fracture of carpal bones, metacarpal bones and phalanx, Colles' fracture, Smith's fracture, Barton's fracture, Scaphoid's fracture, Bennett's fracture dislocation, Rolando's fracture etc. | 08 |
| | dislocation of radio Ulnar joint, dislocation of carpo metacarpal joint of thumb, Lunate dislocation, dislocation of metacarpo phalangeal joints etc. | 04 |
| | Regional conditions of Wrist and Hand complex - ganglion, Dequervain's disease, trigger finger, trigger thumb, Carpal tunnel syndrome, Dupuytren's contracture, tendon injuries of hand, and crush injuries of hand etc. | 06 |
| | Amputations - Amputation of fingers, wrist disarticulation etc. | 02 |
| | Various infections of hand | 02 |

Instruction Method

1. Teaching and training sessions will be carried out through active learning. Active participation and contribution in group discussion and seminars are mandatory for students
2. Lectures to be conducted with the help of black board and/or audio-visual

aids that includes multi-media projector, OHP, etc.

3. Problem based and/or case based assignments based on course content will be given to the students at the end of each unit/topic and will be evaluated at regular interval.
4. The course includes a laboratory where the students have an opportunity to build and appreciation for the concepts being taught in lectures.
5. Instruction method will be integrated with clinical training, bedside / class room teaching and tutorials as necessary.

Textbooks

1. Essential Orthopaedics – Maheshwari, 3rd edition, Mehta Publishers
2. Essential of Orthopaedics for Physiotherapists- John Ebnezar, Jaypee publications

Reference Books

1. Outline of Orthopaedics- Adams and Hamblen, 13th edition, Churchill Livingstone
2. Outline of fractures- Adams and Hamblen, 11th edition, Churchill Livingstone
3. Apley's System of Musculoskeletal and Fractures – 8th edition. Soloman L, Warwick D, Nayagam S. Hodder Arnold Publications
4. Textbook of Musculoskeletal- Kotwal and Natarajan, Elsevier Publications



SYLLABUS