CURRICULUM: Diploma in Orthopaedic and Rheumatological Medicine 2019

1. BASIC KNOWLEDGE

Functional anatomy, biomechanics, physiology and pathophysiology of the musculoskeletal system.
Anatomy, physiology and pathophysiology of the nervous system in relation to pain and dysfunction.
Clinical syndromes and differential diagnosis of the neuromuscular system (International Classification of Disease ICD or equivalent)
Mechanisms of Manual Medicine diagnosis, relevant Ancillary Diagnostics (laboratory, imaging) and Therapeutic techniques.
Indications, Contraindications to different therapeutic options and potential for interaction with other therapeutic modalities.

2. ESSENTIAL AFFECTIVE BEHAVIOUR CHARACTERISED BY:

Conducting history-taking, examination, investigation and treatment in a holistic ethical and caring manner.
Maintaining respectful and collegial professional relationships that promote the understanding and development of Musculoskeletal Medicine (M/M)

3. ESSENTIAL SKILLS IN:

History taking, functional physical examination, choice of relevant investigative option where required, application of appropriate manual medical therapeutic technique

4. BASIC SCIENCES

Course participants will acquire knowledge in:

Structure and function of cartilage, synovium, joint capsule, menisci, ligaments and

intervertebral discs; pathology and repair processes.
Structure and function of muscle, tendon, enthesis: muscle action, proprioception, injury and repair processes.

Structure and function of bone, control of bone growth and mass and its disorders (apophysitis, osteoporosis, osteomalacia and Paget's disease); pathology and repair processes.

Structure and function of peripheral nerves, nerve roots, the dorsal horn, spinal pathways the autonomic nervous system; response to injury of nerve roots and peripheral nerves, neuropathic pain. Neurophysiology, activity and function of reflexes involving the musculoskeletal system including somatovisceral, viscerosomatic and somatosomatic relationships.

The macrostructure, anatomical relations and surface anatomy of the elements of the musculoskeletal/locomotor system.

The general principles underlying musculoskeletal history taking and the specifics of a thorough musculoskeletal examination.

The aetiology and pathology of the Arthritides, Connective Tissue Diseases, musculoskeletal manifestations of systemic disease, diagnosis management.

Pain theory, pain mechanisms and management options. Understand the relationship between psychosocial factors and chronic pain.

Serious disorders of musculoskeletal system requiring secondary referral, 'red flags'

General Biomechanical principles as applied to musculoskeletal system, including concepts of stress, strain, creep, hysteresis, failure, viscoelasticity, stiffness hypo- and hyper-mobility, instability and application to posture, gait cycle, activities of daily living including recreational and occupational activities.

5. SPECIFIC CONDITIONS TAUGHT

SPINE—regional dysfunction at bone, joint, disc, ligament, neural structures, fascia, to include inflammatory and degenerative arthritis, disc degeneration, segmental dysfunction, subluxation, spondylo-lysis/-listhesis, metabolic and neoplastic disease.

UPPER LIMB—shoulder anatomy and biomechanics, acromioclavicular joint pathology, glenohumeral joint capsulitis, bursitis, tendinopathy, rotator cuff tears, impingement and instability, lesions of brachial plexus, thoracic outlet syndromes.

ELBOW--- anatomy, including functional and surface, capsulitis, overuse/degenerative conditions of both soft and hard tissues, forearm neural entrapment.

WRIST—clinical anatomy and biomechanics, carpal joint injury and instability. Capsulitis Muscle and tendon lesions, carpal tunnel syndrome. Intersection syndrome.

HAND—clinical anatomy, degenerative and inflammatory conditions to include joint arthritis, Dupuytrens, Trigger finger, interossei syndromes, ulnar nerve compression.

HIP—clinical anatomy, capsulitis, biomechanics, developmental lesions, muscle/tendon lesions, femoroacetabular impingement, bursitis, groin pain differential diagnosis.

KNEE—clinical anatomy, capsulitis, biomechanical issues, osteochondral lesions, internal/external derangement, patellofemoral syndromes, bursitis.

LOWER LEG/ANKLE--clinical anatomy and biomechanics, stress fractures, osteochondral injuries, ligament injuries and instability, muscle and tendon lesions, compartment and overuse syndromes, nerve entrapment; bursitis.

FOOT--clinical anatomy and biomechanics, postural/structural foot disorders, stress fractures, arthritis, plantar fasciitis, Morton's neuroma, muscle and tendon lesions.

6. SPECIFIC TREATMENTS TAUGHT

Manual Therapy—general principles and schools of thought, technique of assessment and reassessment, indications /contraindications for treatments including massage, mobilisation.

Injection Therapy—pharmacology of drugs used (local anaesthetics, steroid, sclerosants, intra-articular viscose supplements), theory underlying choice of needle/syringe and injection volume, infiltration versus injection, theory underlying appropriate injection, injection repetition, dosage of drug used, diagnostic infiltration, precise placement of injection, use of no touch/sterile technique, legal issues relating to informed consent.

Rehabilitation—general principles appropriate to injury mechanism, to include cognisance of psychological factors, fitness to return to work, exercise prescription.

Orthotic Prescription—full biomechanical assessment of lower limb with practical instruction on the design, fitting and prescription of appropriate orthotic. Contra Indication to orthotic use.

Surgical Intervention—Principles of fracture management, pre and post- op care, appropriateness of referral for surgery, 'red-flag' for acute surgical intervention.

Drug Therapy—pharmacology and indication/contraindication for simple analgesics, opiates, steroids, nsaid, pain modulation in arthritis, arthrosis, soft tissue injury, neuropathic pain. Prescription of DMARD's, biologic agents including supervision of their use.

7. COMPETENCIES BY REGION TO BE GAINED

Spine—knowledge of functional anatomy and examination technique, neurophysiology of acute and chronic pain mechanisms, spinal segmental dysfunction, 'red flag' conditions (such as Cauda Equina, fracture, infection), clinical presentation of forms of arthritis at spine, including sacroiliac joint; and Skill to clinically assess, arrange appropriate imaging or/and

haematology, interpret results of same, arrange urgent referral or choose appropriate conservative management and rehabilitation by manual techniques, use of drugs - orally or by injection- and counsel re further lifestyle activities.

Shoulder—knowledge of functional anatomy and examination technique, capsular and peri-capsular conditions, including arthritis, rotator cuff syndromes, bursitis, labral injury; awareness of visceral and somatic referred pain, polymyalgia rheumatica,'red flags', differential diagnosis; and skill to know how to assess clinically, investigate as per radiological protocols, perform and interpret appropriate blood tests and treat, by manual therapy or injection the acromio-clavicular joint, enthesitis, bursitis, glenohumeral capsule.

Elbow/forearm—knowledge of functional anatomy, clinical assessment, recognition of capsulitis and pericapsular conditions, differential diagnosis of lateral and medial elbow pain, entrapment neuropathies at elbow and forearm; attainment of manual techniques appropriate to management of dysfunction, including deep transverse friction and mobilisation; appropriate joint and enthesitis injection and rehabilitation.

Wrist/hand—knowledge of clinical anatomy, examination technique and differential diagnosis for wrist pain; recognition of patterns of capsulitis, tendon lesions, carpal tunnel syndrome, ulnar nerve lesions, competence in choice of appropriate radiological and haematological investigation; and skill in injection at first metacarpo-phalangeal joint and at tendon sheat; mobilisation of carpal bones for subluxation, and rehabilitation post immobilisation for fracture.

Hip—knowledge of clinical anatomy, examination technique and differential diagnosis, including capsulitis, relevance of patient age, pain referral, bursitis, leg length discrepancy; and skill in choice of appropriate investigation, manual therapy, injection therapy, mobilisation as indicated/contraindicated and orthotic prescription, surgical referral.

Knee—knowledge of clinical anatomy and proficiency in conducting and interpreting clinical examination, awareness of differential diagnosis at femoro- tibial and patello-femoral joints and influence of biomechanical variables; and skill in mobilisation, friction and injection/aspiration of joint and bursae.

Leg/Ankle/Foot—knowledge of integrated functional anatomy and clinical examination, recognition of biomechanical abnormalities, arthritis, tendinous lesions, compartment syndromes, peripheral neuropathy, bursitis and ability to order appropriate radiological investigation as per recognized protocol; and skill to mobilise ligament scar/contracture, inject first metatarsophalangeal joint/ankle joint/tendon sheath and enthesitis of plantar fascia.

8. Rheumatology-Competency Framework

Knowledge will be gained of:
Osteoarthritis-primary, secondary and subsets, Gout, Pseudogout
Arthritis associated with infectious agents
Metabolic Bone Disease—Osteoporosis
Osteomalacia
Parathyroid/renal disease
Other Bone Disease---Paget's
Osteonecrosis

Osteomyelitis
Rheumatoid Arthritis—incl extra-articular features
Seronegative Spondyloarthropathies
Vasculitis
Systemic Lupus Erythematosus
Inflammatory Muscle Disease—Polymyositis
Dermatomyositis
Polymyalgia
Rheumatica

Skill will be acquired in differential diagnosis of these conditions on the basis of clinical examination application of established diagnostic criteria, haematological investigation and interpretation, joint aspiration and radiological assessment, when indicated. Comprehensive treatment strategies will be outlined, including integration within a team approach.

9. Chronic Widespread Musculoskeletal Pain

Knowledge will be gained of the bio-psychosocial aspect of pain perception, pain pathways, clinical assessment of local pain/tender point, application of diagnostic criteria; and skill will be acquired in communication to recognise cognitive factors and peripheral pain generators which may drive the condition.

Examination for Diploma In Orthopaedic and Rheumatological Medicine

WRITTEN EXAMINATION.....Multiple Choice Questions (2 Parts)

CLINICAL EXAMINATION.....Practical assessment of a major joint/area, assessment of ability to inject a joint/tissue, and to mobilise and friction a soft tissue.

CONTINUOUS ASSESSMENT....Assessment of responses to intermodular work tasks; observed ability during the Courses to handle the musculoskeletal system safely and with the prospect of achieving a therapeutic effect.

PASS/FAIL.....a Pass mark must be achieved in each of 3 section,
Compensation will be allowed within a section.

.....Tom Nolan MB, FFSEM, FSORM 2018