

## **HIGHER MEDICAL TRAINING IN RHEUMATOLOGY**

### ***Specialist Interest in Adolescent Rheumatology-***

#### **1.1 DESCRIPTION OF THE DISCIPLINE**

The speciality of Paediatric Rheumatology has grown in the United Kingdom in recognition of the highly specialised needs of children and adolescents with rheumatic disease. The interface with Adult Rheumatology is in the adolescent and transitional years. Transition may start as early as ten years but may not be complete by 22 years. (see Intercollegiate Report – Bridging the Gaps, (RCPCH 2003) and Hall D, Transition from Paediatrics to Adult-orientated Services- currently in Draft Form (RCPCH)). This age group has specific age and developmental needs (Core standard 4, NSF for Children (0-19 years) 2004. It is recognised that adult trainees may occasionally see young people with musculo-skeletal disease with training needs recognised in the core curriculum, others will want more intense training highlighting the special requirements for training in Adolescent and Transitional Rheumatology (Bridging the Gaps 10.1(RCPCH 2003).

The discipline incorporates the investigation, diagnosis, management and rehabilitation of young people with disorders of the musculoskeletal system. The disease spectrum includes diverse conditions such as Juvenile Idiopathic Arthritis, inherited and acquired connective tissue disorders, conditions seen in the growing adult such as anterior knee and pain and osteochondritis, soft tissue conditions including injuries and overuse, back pain and chronic pain syndromes of childhood. Rheumatology in this age group requires skills knowledge and attitudes appropriate to adolescence. This includes working in an active interdisciplinary team, communication skills and knowledge of normal and abnormal physical social and psychological development.

Trainees will require Criminal Records Bureau clearance and knowledge of Child Protection.

#### **1.2 AIMS OF THE POST-GRADUATE TRAINING.**

Postgraduate training leading to recognition as a specialist should furnish the doctor with knowledge and skills, which will enable them to become competent in the field of adolescent rheumatology. The curriculum will enable trainees the opportunity to be competent in the:

- Spectrum of disorders presenting as musculo-skeletal symptoms in childhood and adolescence
- Understand the differential diagnosis of musculo-skeletal pain in adolescence by appropriate use of history, clinical examination and investigation.
- Performance of the core investigations required for all physicians practising rheumatology including joint injections (under appropriate analgesia) and interpretation of tests and images in this age range
- Use of the multidisciplinary team in the assessment and management of young people with rheumatic disease including networking and interagency working.
- Gain practical experience in the day-to-day issues around drug treatment of young people including compliance.
- Development of management plans for the “whole patient” with regard to physical, sexual social and psychological development, and including health promotion, disease prevention and long-term management plans. Issues concerning resilience, exploratory and risk behaviour in relation to rheumatic disease and other issues such as substance abuse and sexual activity.
- Assessment of physical, psychosocial and cognitive development in the presence of rheumatic disease.
- Practical experience in the management of adolescents with rheumatic disease and arrangements for transitional care and subsequent transfer to adult rheumatology services
- Communication skills (including conflict resolution) with young people and their parents. Understanding confidentiality issues, consent and personal advocacy.
- Application of sufficient knowledge and skill in diagnosis and management to ensure safe independent practice.
- Provision of effective team working and leadership skills
- Application of knowledge of the appropriate basic sciences relevant to Adolescent Rheumatology

### **1.3 TEACHING & LEARNING METHODS**

The opportunities and facilities for teaching and learning will vary between training centres. For this reason, trainers will be expected to identify methods appropriate to their local circumstances and to specify these in their trainees manual. Teaching may involve paediatricians, rheumatologists, adolescent psychologists, community based agencies (e.g. sexual health and substance abuse) and orthopaedic surgeons. Examples of methods, which are likely to be appropriate and effective, are listed below, but are not intended to be prescriptive or exhaustive.

The length of training should be 1 - 1.5 full years or equivalent in an approved unit. It is unlikely that dually accredited trainees (GIM/Rheumatology) could train in this sub-speciality without extending the length of training.

#### **Teaching method:**

Requirements additional to Generic Rheumatology training

#### **a) Knowledge acquisition -**

#### **b) Clinical skills and attitudes -**

- Demonstration of examination skills in normal subjects & patients of varying ages by trainer
- Demonstration of communication skills with adolescents and their parents.
- Demonstration of assessment of physical psychosocial and cognitive development stage in adolescents
- Demonstration of transitional care planning
- Regular radiology meetings appropriate to age of patients

#### **c) Procedures -**

- Demonstration of injection technique (including analgesia) in young people by trained operator in patients requiring the procedure.

## **2. SYLLABUS**

### **2.1 KNOWLEDGE**

The overall aim is to acquire a sound knowledge of the natural history and pathophysiology of rheumatic disease and the basic scientific principles and evidence base underpinning the current practice of adolescent rheumatology. The following items are in addition to the generic Rheumatology document.

<b>Specific objectives &amp; subject matter:</b> The trainee will be required to demonstrate working knowledge as applied to the developing young person <b>Basic science -</b>  <b>Rheumatic disorders - (Appendix A)</b>  <b>Specific Knowledge of adolescence</b>	<b>Teaching &amp; learning methods</b>  Section 1.3a	<b>Assessment</b>
<ul style="list-style-type: none"> <li>• Physical cognitive and psychosocial growth and development in children and adolescents. This includes the impact of socio-economic cultural, ethnic and gender issues.</li> <li>• Issues of transition for adolescence to adulthood</li> <li>• Knowledge of education services and career advice</li> <li>• Sexual Health and Education</li> <li>• Health promotion (nutrition, exercise, weight, substance abuse)</li> <li>• Child protection</li> <li>• Community child and youth services</li> </ul>		

## 2.2 CLINICAL SKILLS & ATTITUDES

The overall aim is to develop the ability to perform a clinical assessment of patients with musculoskeletal disorders, select and interpret appropriate investigations and formulate a differential diagnosis and management plan. The trainee should be able to communicate their conclusions effectively to the young person, parents and other clinical colleagues.

### History taking & clinical examination:

Specific objectives & subject matter	Teaching & learning methods	Assessment
<p><b>History</b> - To be able to elicit and correctly interpret a history of:</p> <ul style="list-style-type: none"> <li>▪ the presenting symptoms of rheumatic disease ie pain, stiffness, weakness, loss of function &amp; non-articular manifestations</li> <li>▪ the disability and handicap caused by rheumatic disease</li> <li>▪ the psychosocial problems associated with rheumatic disease in adolescence</li> <li>▪ other general medical problems including screening tools</li> </ul> <p><b>Examination</b> - To be able to undertake a physical examination as appropriate to children and young people</p> <ul style="list-style-type: none"> <li>▪ the normal musculoskeletal system</li> <li>▪ the clinical signs associated with -</li> <li>▪ inflammation or structural damage of joints &amp; periarticular structures (muscles, tendons, entheses, bursae and bone)</li> <li>▪ non-articular, systemic and other features of rheumatic disease</li> <li>▪ general paediatric complications of rheumatic disease</li> <li>▪ diffuse or regional pain disorders or somatisation disorders</li> <li>▪ abnormalities of growth: overgrowth. unequal leg lengths</li> <li>▪ detection of flexion deformities</li> <li>▪ assessment of physical, psycho-social and cognitive development.</li> </ul> <p><b>Differential diagnosis</b> - To be able to use the clinical findings to formulate a differential diagnosis and plan of investigation for patients presenting with -</p> <ul style="list-style-type: none"> <li>▪ monoarthropathy</li> <li>▪ oligoarthropathy</li> <li>▪ polyarthropathy</li> <li>▪ axial arthropathy</li> <li>▪ multisystem disorder</li> <li>▪ muscle weakness</li> <li>▪ spinal pain</li> <li>▪ regional limb &amp; spinal musculoskeletal pain disorders</li> <li>▪ unexplained musculoskeletal pain</li> <li>▪ rheumatological and patient emergencies</li> <li>▪ systemic disease</li> <li>▪ Young people presenting with musculo-skeletal symptoms from disease of other body systems</li> <li>▪ To recognise non-accidental injury and abuse</li> </ul>	<p>Section 1.3b</p>	

### Use of investigations:

Specific objectives & subject matter:	Teaching & learning methods	Assessment
<p><b>Use of investigations</b> -</p> <p>To know the indications for and limitations of the laboratory and imaging techniques used in the diagnosis and management of rheumatic diseases in adolescents.</p> <p>To be able, in the light of the clinical assessment, to select and</p>	<p>Section 1.3a Section 1.3b</p>	

interpret the most appropriate – <ul style="list-style-type: none"> <li>▪ laboratory investigations</li> <li>▪ qualitative imaging techniques</li> <li>▪ quantitative techniques for assessing bone density</li> </ul>	Unit radiology meetings  Instruction from radiologist - imaging reporting sessions	
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**Management & communication:**

Specific objectives & subject matter:	Teaching methods	Assessment
<p><b>Management and communication –</b>            To be able to communicate, explain and discuss with the patient and parents as appropriate –</p> <ul style="list-style-type: none"> <li>▪ the diagnosis,</li> <li>▪ the need for further investigations</li> <li>▪ the evidence-based management options, their risks and benefits and need for clinical monitoring.</li> <li>▪ the need for orthopaedic/surgical intervention, and the main risks and benefits</li> <li>▪ the patient’s views on causation, management and the risks and benefits of complementary or non-conventional approaches as appropriate to their age</li> </ul> <p>To be able to identify the need for –</p> <ul style="list-style-type: none"> <li>▪ allied health professional intervention, and aids to assist self care, mobility or driving as appropriate</li> <li>▪ intervention by other relevant specialists</li> <li>▪ referral to specialist tertiary paediatric colleague</li> <li>▪ education and self management techniques</li> <li>▪ disability benefits, educational support and careers advice</li> <li>▪ multidisciplinary pain management techniques and pain relieving procedures.</li> <li>▪ physical treatments including hydrotherapy and splinting</li> </ul> <p>To communicate these needs effectively</p> <ul style="list-style-type: none"> <li>▪ with members of the multidisciplinary team (physiotherapist, occupational therapist, nurse specialist, orthotist, podiatrist or clinical psychologist)</li> <li>▪ with other clinical colleagues</li> <li>▪ with relevant support workers including medical social worker, community paediatrician, youth worker, education service and voluntary agencies</li> </ul> <p>To have the ability to develop, manage and resource an adolescent rheumatology service.</p>	Section 1.3b	

**Performing procedures:**

Specific objectives & subject matter:	Teaching & learning methods	Assessment
<p><b>Perform procedures –</b> To be able –</p> <ul style="list-style-type: none"> <li>▪ to identify the correct indications for             <ul style="list-style-type: none"> <li>▪ joint injection/aspiration</li> <li>▪ soft tissue injection.</li> </ul> </li> <li>▪ to aspirate and inject joints competently using the appropriate techniques with and without sedation, local or general anaesthesia</li> <li>▪ Assessment of patients for splintage</li> <li>▪ Assessment for a shoe raise</li> </ul>	Section 1.3c	

### **3.3 SPECIFIC OBJECTIVES -**

The trainee and trainer will be required to specify and agree suitable educational objectives for the optional module. The trainee will undergo assessment to ensure that these objectives have been met.

## **APPENDIX A SPECIFIC RHEUMATIC DISORDERS OF ADOLESCENCE**

(in addition to generic curriculum)

### **1) Regional pain syndromes:**

- spinal pain
- limb pain syndromes (eg adolescent anterior knee pain, non-specific limb pain, , algodystrophy growing pains etc)
- chest wall pain syndromes
- chronic pain syndromes, fibromyalgia and related somatoform disorders
- joint hypermobility
- Chronic fatigue syndromes and ME

### **2) Osteochondritis:**

- Osgood-Schlatter's,
- Perthe's disease
- Scheuerman's disease

### **3) Juvenile Idiopathic Arthritis**

as defined by the ILAR classification

Also including

- Enteropathic arthropathies
- Reactive arthritis
- Whipple's disease

### **5) Autoimmune rheumatic disease**

- systemic lupus erythematosus and related overlap syndromes
- scleroderma, morphea and linear scleroderma Sjogrens syndrome
- inflammatory muscle disease
- vasculitides, antiphospholipid syndrome, Behcet's disease

### **6) Metabolic, endocrine and other disorders**

- osteoporosis
- rickets and osteomalacia
- bone & joint dysplasias
- renal bone disease
- endocrine disorders affecting bone, joint or muscle (eg thyroid, pituitary, parathyroid)
- metabolic disorders affecting joints (eg alkaptonuria, haemochromatosis etc)
- heritable collagen disorders
- epiphyseal dysplasia
- haemoglobinopathies
- haemophilia and other disorders of haemostasis
- regional disorders - osteonecrosis, transient regional osteoporosis

### **7) Neoplastic disease**

- primary and secondary neoplastic conditions of connective tissue and bone
- benign tumours such as osteoid osteoma

### **8) Infection and arthritis:**

- septic bone and joint lesions
- Lyme disease
- mycobacterial, fungal & parasitic arthropathies
- viral arthritis
- AIDS
- post-infectious rheumatological conditions (eg rheumatic fever, post-meingococcal arthritis))

### **9) Miscellaneous:**

- Sarcoidosis, Eosinophilic fasciitis, Familial Mediterranean Fever, Relapsing polychondritis
- Hypogammaglobulinaemia & arthritis, Amyloidosis, Sweets syndrome (neutrophilic dermatoses)

### **10) Occupational and sport- related problems in the growing adult**

## APPENDIX B                      UNDERTAKING A CLINICAL EXAMINATION

### a) Normal anatomy and function:

#### **Subject matter – demonstrating normality appropriate for age.**

The trainee should be able to demonstrate on examination

- the surface anatomical features of the shoulder girdle, elbow, hand & wrist, hip/pelvis, knee, ankle/foot, and spine
- the normal range of movement (active and passive) of these joints
- the actions of major muscle/tendons acting on these joints

### b) Abnormal anatomy and function:

The trainee should be able, through performing a clinical examination, to identify -

#### General features of musculoskeletal pathology:

*by inspection* – swelling, erythema, muscle wasting or deformity

*by palpation* – tenderness of articular or specific periarticular structures, increased warmth, to distinguish bone from soft tissue swelling and identify fluctuance

*by movement* – abnormalities of active and passive movements, instability, the presence of tendon lesions by applying appropriate stress tests, and muscle wasting/weakness

- to use these signs to identify inflammation or structural damage of limb joints, spinal joints, soft tissues (muscles, tendons, entheses, bursae)
- to identify flexion deformities and growth abnormalities
- to identify the clinical signs associated with the extra-articular & systemic features
- to identify the general medical complications of rheumatic disease

#### **Shoulder pathology:**

- rotator cuff lesions
- glenohumeral/capsular pathology
- muscle wasting, proximal myopathy (deltoid)
- S/C joint pathology - synovitis
- A/C joint pathology - synovitis
- shoulder pain due to pain referred from viscera or neck

#### **Elbow pathology:**

- olecranon bursitis
- elbow joint pathology
- radio-ulnar joint pathology
- medial or lateral epicondylitis

#### **Hand & wrist pathology:**

- radiocarpal joint pathology
- inf. radio-ulnar joint pathology
- MCP or IP joint pathology
- hand deformities
- muscle wasting
- flexor or extensor tenosynovitis or tendon nodules
- rupture or attenuation of flexor or extensor tendons of fingers or thumb
- De Quervain's tenovaginitis
- carpal tunnel syndrome

**Hip/pelvic pathology:**

- trochanteric, iliopsoas, gluteal bursitis
- hip joint pathology including dysplasia
- real & apparent leg length inequality
- SI joint pathology
- muscle wasting, proximal myopathy, Trendelenberg sign
- deformities of the hip, Thomas' test
- pathology of symphysis pubis
- pathology of pelvis - fractures
- hip pain due to pain referred from lumbar region
- lesions of tendons and entheses

**Knee pathology:**

- knee joint pathology, including internal derangements
- deformities
- muscle wasting, myopathy
- prepatellar, anserine bursitis
- popliteal cyst
- damage to collateral ligaments
- knee pain due to pain referred from hip or lumbar spine
- lesions of tendons and entheses
- Osgood-Schlatter's disease
- adolescent anterior knee pain

**Ankle & foot pathology:**

- ankle (tibiotalar) pathology
- subtalar/midtarsal joint pathology
- MTP & IP joint pathology
- lesions of the Achilles tendon, entheses and retrocalcaneal bursa
- deformities of the ankle and foot
- foot pain due to pain referred from lumbar spine
- plantar fasciitis
- tenosynovitis of tib post and peroneal tendons
- rupture of tib posterior or Achilles tendon
- lesions of bone (eg stress fracture)

**Spinal pathology:**

- cervical spine pathology
- thoracic spine pathology
- lumbar spine pathology
- spinal nerve root entrapment syndromes
- spinal deformities including adolescent scoliosis

**Extra-articular pathology:**

- Raynauds phenomenon
- vasculitic skin lesions
- rheumatoid nodules
- rash - psoriasis, pustular psoriasis, onycholysis, balanitis, lupus rashes, erythema nodosum
- scleritis, episcleritis, conjunctivitis, iritis
- sclerodactyly
- tophi
- other medical complications of rheumatic disease affecting internal organs