

Primary Care Rheumatology Management Program

Program Description and Educational Objectives for Enhanced Skills Residents

Introduction

Musculoskeletal problems are amongst the most common presenting complaints to PCPs (4), and the burdens of these complaints are expected to increase with the aging population (5). In most cases, PCPs are responsible for the management of most of these problems. However, their training in this area is limited, which can lead to suboptimal patient care (6). A survey of Ontario PCPs showed that respondents were significantly more confident in performing a comprehensive cardiovascular examination than a musculoskeletal examination (2). Continuing medical education (CME) was shown to significantly increase confidence in musculoskeletal problem management (2), (6). As well, CME lead to increased knowledge, skill acquisition, and self-assessed change in practice (6).

PCPs are also the “front-line” in the diagnosis and management of inflammatory arthritis (IA) and other connective tissue diseases. This is especially true given that access to rheumatologists among patients with newly diagnosed rheumatoid arthritis is limited, especially by geographic factors (3). However, recent studies have shown that PCP factors also significantly impact referral time to rheumatologists (3). Additionally, it has been shown that PCP rates of referral to rheumatologists in Ontario were very low (1), suggesting a need for increased education at the PCP level.

Through the creation of the ES-Rheum program, we hope to increase PCP confidence and skills in diagnosis, treatment, and referral of musculoskeletal problems. By doing so, we will improve the quality of care that patients receive, even if they are far from an academic center.

The main goal of the program is to provide a high-quality educational experience for graduates of Family Medicine that keen to become leaders in their Family Health Organizations and/or their community to ensure that patients are receiving the best treatment and care for their musculoskeletal issues.

Structure and Learning Environment

Dr. Gina Rohekar is the Director of the Enhanced Skills – Rheumatology (ES-Rheum) Program. She is an Assistant Professor in the Division of Rheumatology at St. Joseph’s Health Care. She also has a Master’s degree in Clinical Epidemiology. Dr. Rohekar will co-ordinate the ES-Rheum program.

The other rheumatologists at St. Joe's will also serve to teach and supervise the Residents. They include Dr. Janet Pope, Dr. Sherry Rohekar, Dr. Andy Thompson, Dr. Lillian Barra, Dr. Sara Haig and Dr. Nicole le Riche.

The rheumatology clinic at St. Joe's is a very busy clinic that sees patients from a large catchment area. This is ideal in that Residents are exposed to a wide variety of conditions and have ample opportunity for injection and aspiration of joints.

Organization of the Program

This would be a 12 month program following successful completion of Family Medicine Residency training with PARO regulated vacation time.

Didactic Learning

There will be a series of didactic lectures in the form of videos from Dr. Andy Thompson's website, www.rheumtalks.com. As well, recordings of lectures given for a special nurse practitioner series will be viewed by the Resident. There will also be didactic teaching in the form of Rheumatology Grand Rounds (every other week), teaching by attending rheumatologists (after each Grand Rounds) and Journal Club participation (every other week). As well, Dr. Gina Rohekar will be visiting Family Health Organizations and giving teaching for rounds, and the Resident will attend these sessions and possibly give the sessions him/herself later in the course of the training.

Clinical Learning

The Resident will attend the Rheumatology Clinic and work with a number of different attendings. The majority of learning will be hands-on clinical work with an emphasis on diagnosis, management and mastery of procedures such as injection and aspiration. Areas of focus include the diagnosis and management of osteoarthritis, inflammatory arthritis, fibromyalgia, tendonitis, mechanical back pain, connective tissue diseases and polymyalgia rheumatic.

Injection and Aspiration Training

Aspiration and injection of joints, tendon sheaths and tendon nodules will be learned in the clinical setting while managing patients. As well, there will be dedicated injection workshops for learning and injection clinics for practice.

Scholarly Activities

The ES-Rheum resident may attend family medicine academic half-days if desired and will attend the rheumatology academic half-day which is every other Friday am and also the alternate Fridays for one hour.

All residents in the Enhanced Skills program are required to complete a scholarly project. A written report is not required but welcome as per Department of Family Medicine guidelines. A formal presentation at Resident Research Day in June is required. Topics should be discussed with Dr. Grushka (Enhanced Skills Program Director) and Dr. Gina Rohekar. Please refer to the Enhanced Skills Orientation Manual for more direction regarding project requirements and departmental assistance with funds, ethics approval, literature reviews, etc.

Should the resident be interest in additional research exposure this would be encouraged and could be arranged either through the completion of an additional study, presentation at an additional scholarly forum and/or publication. Appropriate supervision and assistance as required will be available.

The Resident will be required attend the annual UWO/McMaster Rheumatology Resident Weekend and workshop.

An OSCE style test will be held at the end of the year.

Evaluation

1. The Resident will be supervised on a daily basis and will obtain 1 evaluation per 3 blocks from Dr. Gina Rohekar or the rheumatologist with the most contact with the Resident for that block via the one45 system.
2. The Resident will meet informally with Dr. Gina Rohekar at the quarter point through the year to review any concerns.
3. A midterm review with the program director will take place to ascertain the Resident's progression.

Project Objectives:

1. Improve training of primary care physicians in rheumatology disease diagnosis and management, including in osteoarthritis, fibromyalgia, tendonitis, mechanical back pain, inflammatory arthritis, connective tissue diseases, and polymyalgia rheumatica as evaluated at program entry and completion.
2. Improve collaboration between specialists (rheumatologists) and primary care physicians in the Southwestern Ontario medical community with respect to proper referrals, prioritizing of referrals and co-management of treatment.

Objectives for Rheumatology Program as Considered By the CANMEDS-FM Roles

I. Family Medicine Expert

1. The Family Medicine Resident will become knowledgeable in the following:

- I. Rheumatic Diseases: For each disease, the resident will understand the epidemiology, natural history, and clinical expression including clinical subtypes.
 - a. Osteoarthritis/Bone and cartilage disorders
 - i. Primary OA
 - ii. Secondary OA
 - iii. Metabolic bone disease including osteoporosis
 - b. Inflammatory Arthritis
 - i. Rheumatoid arthritis
 - ii. Ankylosing spondylitis
 - iii. Psoriatic arthritis
 - iv. Infectious and reactive arthritides
 - v. Gout and Pseudogout
 - c. Nonarticular and regional musculoskeletal disorders
 - i. Fibromyalgia
 - ii. Myofascial pain syndromes
 - iii. Axial syndromes: low back pain, spinal stenosis, intervertebral disc disease and radiculopathies, cervical pain syndromes, coccydynia, osteitis condensans ilii, osteitis pubis, spondylolisthesis/spondylolysis, discitis
 - iv. Regional musculoskeletal disorders: in addition to bursitis, tendinitis, or enthesitis occurring around each joint, the resident should be familiar with other disorders occurring at each specific joint site (e.g., shoulder-rotator cuff tear, adhesive capsulitis, impingement syndrome; wrist ganglions; trigger fingers and Dupuytren's contractures; knee synovial plicae, internal derangements, cysts; hallux rigidus, heel pain, and metatarsalgia; TMJ syndromes; costochondritis.
 - v. Biomechanical/anatomic abnormalities associated with regional pain syndromes: scoliosis and kyphosis, leg length discrepancy, foot deformities
 - vi. Overuse rheumatic syndromes: occupational, sports, recreational, performing artists
 - vii. Sports medicine: injuries, strains, sprains, nutrition, female athlete, medication issues
 - viii. Entrapment neuropathies: thoracic outlet syndrome, upper extremity entrapments, lower extremity entrapments
 - ix. Other: reflex sympathetic dystrophy, erythromelalgia
 - d. Muscle Diseases
 - i. Inflammatory: polymyositis, dermatomyositis, inclusion body myositis
 - ii. Metabolic
 1. Primary: glycogen storage diseases, lipid metabolic disorders, myoadenylate deaminase deficiency, mitochondrial myopathies
 2. Secondary: nutritional, toxic, endocrine disorders, electrolyte disorders, drug-induced

3. Muscular dystrophies
4. Myasthenia gravis

II. Therapeutic Modalities and Strategies

a. **Pharmacology: for each medication, understand the dosing, pharmacokinetics, metabolism, mechanisms of action, side effects, drug interactions, compliance issues, costs, and use in specific patient populations, such as renal insufficiency and including fertile, lactating, and pregnant women.**

- i. Nonsteroidal anti-inflammatory drugs
- ii. Glucocorticoids: topical, intraarticular, systemic
- iii. Systemic antirheumatic drugs: antimalarials, sulfasalazine, gold compounds, methotrexate, D-penicillamine d. Cytotoxic drugs: azathioprine, cyclophosphamide, chlorambucil
- iv. Immunomodulatory drugs: cyclosporine, mycophenolate mofetil, tacrolimus
- v. Biologic agents
- vi. Hypouricemic drugs: allopurinol, sulfinpyrazone, probenecid
- vii. Antibiotic therapy for septic joints
- viii. Narcotic and non-narcotic analgesics
- ix. Tricyclics and other agents used for pain modulation
- x. Anticholinergics and non pharmacologic agents used for the treatment of sicca symptoms
- xi. Others: apheresis, ionizing radiation

b. **Rehabilitation and disability issues**

- i. Methods of rehabilitation: for each method, understand principles, mechanism of action, indications, precautions and contraindications, potential side effects, and costs.
- ii. Importance of multidisciplinary approaches to rehabilitation and pain control. Appropriate use of and referral/prescription to rehabilitation specialists and pain clinics.
- iii. Exercise: range of motion, strengthening, conditioning, and stretching
 1. Rest and splinting
 2. Modalities and hydrotherapy: ultrasound, TENS iontophoresis, spa therapy
 3. Joint protection and energy conservation techniques
 4. Adaptive equipment and assistive devices
 5. Job site/home evaluation and adaptation
 6. Footwear and orthotics
 7. Acupuncture and other alternative modalities
 8. Nutritional issues
 9. Demonstrate understanding of specific rehabilitative techniques/modalities and what modification of these techniques are needed depending on the patient's disease (e.g. osteoarthritis, myositis, etc.), location of symptoms (e.g. back, shoulder, etc) and other related issues.
- iv. Psychosocial aspects of disability: understand the impact that the following factors have on the overall therapy of a patient with rheumatic disease and demonstrate knowledge of what can be done to assist a patient in these areas.
 1. Psychological and emotional factors including sexuality

2. Economic and vocational issues: vocational rehabilitation, costs of therapy and monitoring
3. Disability determination: impairment vs disability, evaluation and measurement, social security disability, workmen's compensation, other
4. Compliance issues

c. Surgical management

- i. For each procedure, the resident should possess a working knowledge of indications, preoperative evaluation and medication adjustments, contraindications, complications, postoperative management, and expected outcome.
 1. Bone biopsy
 2. Arthroscopy
 3. Synovectomy of tendons and joints
 4. Entrapment neuropathy release
 5. Osteotomies: hip, knee
 6. Arthrodesis: wrist, other
 7. Spine surgery: radiculopathy, stenosis, and instability
 8. Reconstructive surgery of hand and foot
 9. Total joint replacement: hip, knee, shoulder, other
 10. Specific surgical management problems:
 - a. Rheumatoid arthritis patient
 - b. Infected joint: arthroscopy vs. arthrotomy
 - c. Infected prosthetic joint
 - d. Ankylosing spondylitis patient
 - e. Pediatric rheumatic disease patient
 - f. Prevention and treatment of deep venous thrombosis
 11. Perioperative antirheumatic medication management
- d. Complementary and alternative medical practices: diet, nutritional supplements, antimicrobials, acupuncture, chiropractic, topicals, homeopathic remedies, venoms, others

III. DIAGNOSTIC TESTING

- a. **Laboratory tests:** for each test, understand the biologic rationale, methods for performing, and utility/limitations of specific laboratory tests including but limited to:
 - i. Erythrocyte sedimentation rate, C-reactive protein, and other acute phase reactants
 - ii. Rheumatoid factors, cryoglobulins, and circulating immune complexes
 - iii. Anti-cyclic citrullinated peptide antibodies
 - iv. Antinuclear antibodies and subtype specificities including anti-dsDNA, anti-Smith, anti-U1 RNP, anti-centromere antibodies, and anti-histone antibodies; and LE cell preparation (for historical reasons)
 - v. Antiribosomal P, anti-topoisomerase 1, and anti-synthase antibodies including anti-Jo-1
 - vi. Anti-neutrophil cytoplasmic antibodies including specificities for neutrophil granule constituents [anti-PR3, anti-myeloperoxidase]
 - vii. Antiphospholipid antibodies including RPR, lupus anticoagulant, anticardiolipin and beta-2-glycoprotein I antibodies

- viii. Antibodies to formed blood elements including direct and indirect Coombs testing, anti-platelet antibodies, anti-granulocyte antibodies
 - ix. Assays for complement activity (CH50) and components of the complement cascade (C3, C4)
 - x. Serum immunoglobulin levels (including subtypes such as IgG4), Serum protein electrophoresis and immunofixation electrophoresis
 - xi. HLA typing
 - xii. ASO and other streptococcal antibody tests
 - xiii. Serologic and PCR tests for Lyme disease, HIV, Hepatitis B, Hepatitis C, parvovirus and other infectious agents
 - xiv. Serum and urine measurements for uric acid
 - xv. Iron studies including ferritin
 - xvi. Flow cytometry studies for analysis of lymphocyte subsets and function
 - xvii. Specific genetic testing (such as HLAB27, hemochromatosis, autoinflammatory syndromes, etc.)
- b. **Diagnostic imaging techniques:** understand the basic underlying principles and technical considerations in the use of plain radiographs, computed tomography, magnetic resonance imaging, ultrasonography and radionuclide scanning of bones, joints, and periarticular and vascular structures.
 - c. **Synovial fluid analysis:** cell count and differential, crystal identification, viscosity, protein, glucose, and other special stains/analyses
 - d. **Test-performance characteristics:** principles of sensitivity, specificity, and predictive value and where tests have false positives that may be clinically relevant (such as ANA, RF)
- IV. Elicit an appropriate rheumatologic history, relevant review of systems, and assessment of functional status of patients with rheumatic disease symptoms.
 - V. Understand principles and demonstrate competency in performing and interpreting the examination of the structure and function of all axial and peripheral joints, peri-articular structures, peripheral nerves, and skeletal muscles. Additionally, the trainee should be able to identify extra-articular findings that are associated with specific rheumatic diseases.
 - VI. Understand the principles and interpretation of results of synovial fluid analysis and become proficient in the examination and interpretation of synovial fluid under conventional and polarized light microscopy from patients with a variety of rheumatic diseases.
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 - VIII. Demonstrate the ability to construct a differential diagnosis in patients presenting with signs and symptoms related to rheumatologic diseases and to outline further testing necessary to establish the correct diagnosis.
 - IX. Demonstrate the ability to construct and implement an appropriate treatment plan for the care of a patient with a rheumatologic problem integrating the prescribing of medications (oral, injectable or infused), counseling, rehabilitative medicine, and, when necessary, surgical or other consultation. The trainee should be able to explain the rationale and the risks/benefits for the treatment plan.
 - X. Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans.

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| XI. | Demonstrate effective clinical problem solving and judgment to address patient problems, including interpreting available data and integrating information to generate differential diagnoses and management plans. |
| XII. | Demonstrate effective, appropriate, and timely consultation of another health professional as needed for complete patient care. |

II. Manager

Family Medicine residents will

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| <ol style="list-style-type: none">1. Order appropriate and economical selection of diagnostic and screening tests2. Make referrals effectively3. Demonstrate understanding of roles of all health care providers in the team4. Demonstrate the ability to make effective diagnostic decisions5. Understand the need and ability to assess for risk management, quality assurance and improvement6. Understand the role of information management in the care of community patients |
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III. Communicator

Family Medicine Residents will be able to communicate effectively with patients, family members and members of the health care team

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| <ol style="list-style-type: none">1. Demonstrate listening skills2. Demonstrate language skills (verbal, writing, charting)3. Demonstrate non-verbal skills (expressive and receptive)4. Apply motivational interviewing principles during patient interactions5. Demonstrate skills in adapting communication appropriately to a patient's or colleague's culture and age6. Demonstrate attitudinal skills (ability to respectfully hear, understand and discuss an opinion, idea or value that may be different from their own)7. Apply these communication skills to facilitate shared and informed decision-making8. Able to coordinate community resources including knowledge of the Arthritis Society and other outreach services9. Function within a team composed of members from various health care disciplines10. Recognize situations where a specialist consultation is appropriate, and effectiveness in communicating the purpose of the referral, the patient's clinical condition and pertinent previous medical history |
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IV. Collaborator

Family Medicine Residents will be able to collaborate

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| <ol style="list-style-type: none">1. Work collaboratively in different models of health care2. Engage patients and families as active participants in their care3. Understand the role of the GP-Rheumatology expert as a teacher and consultant |
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V. Health Advocate

Family Medicine Residents will be able to advocate for the health of patients

1. Acting as an effective patient advocate with employers and social service agencies
2. Identify patients who are vulnerable or marginalized and assist them in issues (i.e. occupational issues, special diet application forms, etc.) that promote their health
3. Identify patients at risk because of social, family or other health situations and to work appropriately with social services.

VI. Professional

Family Medicine Residents will have demonstrated professionalism

1. Demonstrate (i.e. day to day behaviour) that reassures that the resident is responsible, reliable and trustworthy
2. Identify patients at risk because of social, family or other health situations
3. Demonstrate leadership, professional and ethical qualities

VII. Scholar

The Family Medicine Resident will have demonstrated their scholarly proficiencies:

1. Strategies for lifelong learning and continuing maintenance of professional competence
2. Demonstrates self-directed learning based on reflective practice
3. Access, critically evaluate and use medical information in health care decisions

Developed by: Dr. Daniel Grushka, Dr. Gina Rohekar and the Primary Care Rheumatology Subcommittee

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