

**Rheumatology Elective**  
**PGY2 or PGY3 year**  
Inova Fairfax Medical Campus  
Internal Medicine Residency Program

**Course Director:** Dr. Ramona Raya

**1. Educational Purpose and Goals**

- a. Expose residents to common rheumatologic problems seen in clinic and inpatient setting.
- b. See, evaluate and learn about both common and rare rheumatologic disorders.
- c. Learn how to take a detailed history pertaining to rheumatologic complaints.
- d. Perform and interpret a detailed physical exam in a patient with a suspected rheumatologic abnormality.
- e. Develop a rational diagnostic and therapeutic approach to problems in rheumatology.

**2. Principal Teaching/Learning Methods**

- a. *Supervised patient care:* This rotation will include both in-patient Rheumatology as well as outpatient clinic with Rheumatology faculty. Patients will be seen and examined by the resident, who will formulate a hypothesis and a treatment plan and present it to the attending faculty. Both the resident and attending will examine the patient and discuss the plan of care. The attending physician may direct the resident to perform an inpatient consultation based on his or her discretion. In this case, the resident will evaluate in the same fashion as above.
- b. *Didactics/Small group sessions*
  - i. Faculty will provide discussions/lectures in addition to clinic- and ward-based teaching on core rheumatology topics throughout the rotation.
  - ii. Noon conference lecture series as well as grand rounds, resident report, Med-Path-Rads and M&M rheumatology lecture series  
Resident reports when in the hospital
- c. *Brief (30 minutes) lecture* on a rheumatology topic - to the rheumatology attending. Will be included in resident portfolio.
- d. *Independent reading* – all residents are expected to read about patients they see (suggested resources below)

**3. Educational Content**

- a. Patient/Disease mix – Resident will have exposure common and rare diseases. Both inpatient and outpatient population in the Inova health system include patients over age 18 years old that are ethnically diverse. Common disorders will include disease processes such as rheumatoid arthritis, gout, and systemic lupus erythematosus. Rarer disorders will include disease processes such as vasculitis, and other autoimmune

connective tissue inflammatory disorders. In the outpatient setting, residents will see typical outpatient rheumatologic problems (including osteoarthritis, rheumatoid arthritis, systemic lupus erythematosus).

- b. Learning venues
  - i. Inova Fairfax Hospital
  - ii. Inova Rheumatology clinics
- c. Structure – The rotation is a two- or four-week block. The time will be divided between inpatient and outpatient. Residents will not be on call for this service, although they may be on disaster call for the program during this elective. There are no weekend duties aside from reading. Residents will continue to attend their continuity clinic during this rotation. The educational coordinator will orient the resident to the rotation at the beginning of the block and will review the specific schedule at that time. Residents will never work more than 14 hours in a day and typically will work for approximately 10 hours per day, five days per week.

#### **4. Principal Educational Materials**

- a. At the beginning of the rotation, the educational director will provide materials, including this curriculum, and a resource list.

#### **5. Methods of Evaluation**

- a. Feedback will be given to the resident throughout the rotation as appropriate. At the end of the rotation, the supervising faculty rheumatologist will complete a web-based evaluation (MedHub) and review it with the resident.
- b. The residents will also evaluate faculty and the rotation in an anonymous fashion (summarized annually in a composite form).
- c. In-training examination results for residents' self-assessment in Rheumatology
- d. One nurse from the clinic will be chosen to evaluate the resident, if applicable (360 degree component)
- e. Lectures will be evaluated by the supervising faculty immediately after the session, and will be part of the overall rotational evaluation.

#### **6. Resource List**

- a. American College of Rheumatology website (online curriculum cases, guidelines and position statements).
- b. Kelley's Textbook of Rheumatology (can be found online also)
- c. Harrison's Principles of Internal Medicine; Section twelve (Disorders of the Immune System, Connective Tissue, and Joints)
- d. Annals of Internal Medicine Series, Update in Rheumatology
- e. Primer on the Rheumatic Diseases; *John H. Klippel*
- f. Hopkins modules – access will be provided by the department.
- g. Rheumatology SECRETS by Sterling West (can be found on the online library also)
- h. NEJM - Review Articles:

- Ankylosing Spondylitis and Axial Spondyloarthritis*, 2016. (N Engl J Med 2016;374:2563-2574)
- Calcium Pyrophosphate Deposition Disease*, 2016. (N Engl J Med 2016;374:2575-2584)
- The Pathogenesis of Antiphospholipid Syndrome*, 2013. (N Engl J Med 2011; 365:2110-2121);
- The Pathogenesis of Rheumatoid Arthritis*, 2011. (N Engl J Med 2011;365:2205-19);
- Systemic Lupus Erythematosus*, 2011. (N Engl J Med 2011; 365:2110-2121)
- Osteoarthritis of the Knee*, 2021. (N Engl J Med 2021; 384: 51-59)
- Nintedanib for Systemic Sclerosis Associated Interstitial Lung Disease*, 2019. (N Engl J Med 2019; 380: 2518-2528)
- i. Infections and Arthritis, 2014. Best Practice & Research Clinical Rheumatology 28 (2014) 935-959.
  - j. 2012 Revised Internal Chapel Hill Consensus Conference Nomenclature of Vasculitides, 2013. Arthritis and Rheumatism, 65 (2013) 1-11.
  - k. Guidelines for ANCA-associated vasculitis management:  
<https://www.rheumatology.org/Portals/0/Files/Guideline-Management-ANCA-Associated-Vasculitis-2021.pdf>
  - l. ACR Treatment Guidelines for Rheumatoid Arthritis.  
<https://www.rheumatology.org/Portals/0/Files/2021-ACR-Guideline-for-Treatment-Rheumatoid-Arthritis-Early-View.pdf>
  - m. Autoimmune Myopathies:  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6004913/>

### **Learning Venues**

1. Supervised patient care/Attending rounds for inpatients/Attending review of cases in clinic
2. Small group and Didactic sessions
3. Lecture to rheumatology group
4. Independent reading
5. Hopkins modules

### **Methods of Evaluation**

- A. Attending evaluation
- B. Clinic nurse evaluation
- C. Direct observation with feedback
- D. Lecture evaluation
- E. In-training exam results for self-assessment

The following competency based objectives and evaluation methods are applicable to PGY2 and PGY3 level. In addition, the following progressive management is expected of PGY 2 vs. PGY2 with regards to this elective.

### **Progressive Responsibilities:**

PGY-2 Residents:

Second year residents should be proficient gathering a detailed rheumatologic history on their patients. They should demonstrate excellent understanding of basic labs such as autoantibodies, muscle/liver enzymes and radiographic findings as it pertains to rheumatologic conditions. They should start to demonstrate understanding the interpretation of more advanced medical testing (disease specific antibodies, HRCT, MRIs of brain, etc). They should know indications for and how to do arthrocentesis of the knee and soft tissue injections (bursitis, tendonitis, etc). They should demonstrate understanding of both the initial and ongoing management of common rheumatic diseases; and begin to understand initial management of more complex and rare rheumatic diseases.

PGY-3 Residents:

Third year residents should be proficient in all the responsibilities listed above for second year residents. Additionally, they should be experts in interpreting more advanced medical testing (disease specific antibodies, HRCT, MRIs of brain, etc). They should demonstrate understanding of both the initial and ongoing management of more complex and rare rheumatic diseases.

<b>Competency: Patient Care</b>	<b>Learning Venues</b>	<b>Evaluation Methods</b>
Demonstrate the ability to perform a comprehensive <b>joint exam and do joint aspiration of knees, injection of bursa/tendons</b>	1,2	AC
Demonstrate ability to take a <b>rheumatologic history</b> to differentiate patients with inflammatory, degenerative, infectious, crystal arthritides or a multisystem connective tissue disease and vasculitis.	“	“
Demonstrate the ability to <b>examine synovial fluid</b> to identify crystals or infection.	“	“
<b>Competency: Medical Knowledge</b>	<b>Learning Venues</b>	<b>Evaluation Methods</b>
Articulate the pathophysiology, evaluation, and management of <b>inflammatory arthritides(RA, PsA, Anklyosing Spondylitis, crystalline arthritis)</b>	1-5	A,C,D,E
	“	“
Articulate the pathophysiology, evaluation, and management of <b>the connective tissue diseases (SLE, MCTD,Scleroderma, polymyositis/dermatomyositis) .</b>	“	“

Articulate the pathophysiology, evaluation, and management of <b>vasculitis (GPA, MPA, GCA, Takayasu's arteritis, PAN)</b>	“	“
Articulate the pathophysiology, evaluation, and management of <b>nonarticular and soft tissues problems</b>	“	“
Understand the mechanisms and use of <b>NSAIDs, steroids, , DMARDs and biologic agents</b>	“	“
<b>Competency: Interpersonal and Communication Skills</b>	<b>Learning Venues</b>	<b>Evaluation Methods</b>
Interact in an effective way with physicians and nurses participating in the care of patients requiring rheumatology consultation or care (including physicians requesting consultation, fellows, attendings, medical students, and clinic staff personnel)	1	ABC
Show understanding of patients dealing with chronic and multisystem diseases.	“	“
<b>Competency: Professionalism</b>	<b>Learning Venues</b>	<b>Evaluation Methods</b>
Treat team members, primary care-givers, and patients with respect	1	ABC
Actively engage in the academic process	1-5	A-E
Attend and participate in all scheduled conferences and meetings	2,3	A-E
<b>Competency: Practice-Based Learning</b>		
Identify limitations of medical knowledge in evaluation and management of patients with rheumatic diseases and use medical literature (primary and reference), colleagues, attendings, and ancillary staff to address these gaps in medical knowledge	1-5	ACDE
<b>Competency: Systems-Based Practice</b>	<b>Learning Venues</b>	<b>Evaluation Methods</b>
Understand barriers to optimal care of patients with rheumatic systemic diseases and/or chronic arthritis	1,2,3,4	ABC
	1,2	“

Understand how financing of treatment of the various rheumatic conditions influences patient care		
Understand need for effective communication between multiple caregivers.	1	“