Rheumatology
Certification Examination Blueprint

Purpose of the exam

The exam is designed to evaluate the knowledge, diagnostic reasoning, and clinical judgment skills expected of the certified rheumatologist in the broad domain of the discipline. The ability to make appropriate diagnostic and management decisions that have important consequences for patients will be assessed. The exam may require recognition of common as well as rare clinical problems for which patients may consult a certified rheumatologist.

Exam content

Exam content is determined by a pre-established blueprint, or table of specifications. The blueprint is developed by ABIM and is reviewed annually and updated as needed for currency. Trainees, training program directors, and certified practitioners in the discipline are surveyed periodically to provide feedback and inform the blueprinting process.

The primary medical content categories of the blueprint are shown below, with the percentage assigned to each for a typical exam:

<table>
<thead>
<tr>
<th>Medical Content Category</th>
<th>% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic and Clinical Sciences</td>
<td>7%</td>
</tr>
<tr>
<td>Crystal-induced Arthropathies</td>
<td>5%</td>
</tr>
<tr>
<td>Infections and Related Arthritides</td>
<td>6%</td>
</tr>
<tr>
<td>Metabolic Bone Disease</td>
<td>5.5%</td>
</tr>
<tr>
<td>Osteoarthritis and Related Disorders</td>
<td>5%</td>
</tr>
<tr>
<td>Rheumatoid Arthritis</td>
<td>13%</td>
</tr>
<tr>
<td>Seronegative Spondyloarthropathies</td>
<td>6.5%</td>
</tr>
<tr>
<td>Other Rheumatic and Connective Tissue Disorders (ORCT)</td>
<td>16.5%</td>
</tr>
<tr>
<td>Lupus Erythematosus</td>
<td>9%</td>
</tr>
<tr>
<td>Nonarticular and Regional Musculoskeletal Disorders</td>
<td>7%</td>
</tr>
<tr>
<td>Nonrheumatic Systemic Disorders</td>
<td>9%</td>
</tr>
<tr>
<td>Vasculitides</td>
<td>8.5%</td>
</tr>
<tr>
<td>Miscellaneous Topics</td>
<td>2%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Exam questions in the content areas above may also address clinical topics in geriatrics, pediatrics, pharmacology and topics in general internal medicine that are important to the practice of rheumatology.

**Exam format**

The exam is composed of multiple-choice questions with a single best answer, predominantly describing clinical scenarios. Questions ask about the work done (that is, tasks performed) by physicians in the course of practice:

- Making a diagnosis
- Ordering and interpreting results of tests
- Recommending treatment or other patient care
- Assessing risk, determining prognosis, and applying principles from epidemiologic studies
- Understanding the underlying pathophysiology of disease and basic science knowledge applicable to patient care

Clinical information presented may include patient photographs, radiographs, micrographs, DXA scans, electrocardiograms, angiograms, and other media to illustrate relevant patient findings.

A tutorial including examples of ABIM exam question format can be found at [http://www.abim.org/certification/exam-information/rheumatology/exam-tutorial.aspx](http://www.abim.org/certification/exam-information/rheumatology/exam-tutorial.aspx).

The blueprint can be expanded for additional detail as shown below. Each of the medical content categories is listed there, and below each major category are the content subsections and specific topics that may appear in the exam. **Please note:** actual exam content may vary.

<table>
<thead>
<tr>
<th>Basic and Clinical Sciences</th>
<th>7% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy, biology, and structure of musculoskeletal tissues</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Joints and ligaments, intervertebral discs, synovium, and cartilage</td>
<td></td>
</tr>
<tr>
<td>Connective tissue cells, matrix components, and macromolecules</td>
<td></td>
</tr>
<tr>
<td>Bone</td>
<td></td>
</tr>
<tr>
<td>Muscles, tendons, and bursae</td>
<td></td>
</tr>
<tr>
<td>Blood vessels</td>
<td></td>
</tr>
<tr>
<td>Nerves</td>
<td></td>
</tr>
</tbody>
</table>
Immunology

Anatomy and cellular elements of the immune system
Lymphoid organs: gross and microscopic anatomy
and function
Organization of immune system: innate and adaptive responses
Specific cell types: ontogeny, structure, phenotype, function,
and activation markers and cell membrane receptors

Immune and inflammatory mechanisms
Antigens: types, structure, processing, presentation,
and elimination
Components and regulation of innate immune system
Major histocompatibility complex: structure, function,
and nomenclature
B-cell receptors and immunoglobulins: structure, function,
antigen binding, signaling, genetic basis, and effector function
T-cell receptors: structure, function, antigen binding, signaling,
and genetic basis
Receptor-ligand interactions, adhesion molecules, complement
receptors, Fc receptors, and signal transduction
Complement and kinin systems: structure, function, and regulation
Acute-phase reactants and enzymatic defenses

Cellular interactions, immune regulation, and immunomodulation
Activating and inhibitory immune receptors
Cellular activation, suppression, and regulation of each cell type
Origin, structure, effect, site of action, metabolism, and
regulation of cytokines, chemokines, and other
inflammatory mediators
Mechanisms of immune tolerance

Immune responses
IgE-mediated: acute- and late-phase reactions
Immunoglobulin-mediated: opsonization, complement
fixation, and antibody-dependent cellular cytotoxicity
Immune complex-mediated: physiochemical properties
and clearance of immune complexes
Cell-mediated: cells and effector mechanisms in cellular
cytotoxicity and granuloma formation
Mucosal immunity: interactions between gut and
bronchus-associated lymphoid tissue and secretory IgA
Natural killer cells, lymphokine-activated killer cells, and
graft-versus-host reaction
Autoantibodies
Tissue destruction and repair
  Cellular and molecular mediators
  Proteases and collagenases

Research principles in basic and clinical investigation
  Design of experimental protocols, clinical trials, and outcomes research
  Controls, validity, reliability, and responsiveness
  Outcome assessment techniques: scales, questionnaires, performance-based and capacity-based measurements, health status, disease activity, and functional assessment
  Other design of experimental protocols, clinical trials, and outcomes research

Principles of epidemiology and health services research
  Prevalence and incidence
  Measurement of disease frequency
  Application of epidemiologic data
  Data analysis, biostatistics, meta-analysis, and medical informatics

Principles of quality assessment and improvement

Ethical and legal issues
  Bioethics of basic research and clinical trials
  Patient rights and confidentiality

Laboratory and research techniques
  Serologic: enzyme-linked immunosorbent assay (ELISA), radioimmunoassay (RIA), radial immunodiffusion (RID), nephelometry, immunoblots, protein electrophoresis, and circulating immune complex assays
  Cellular: lymphocyte proliferation, flow cytometry
  Histochemistry and immunofluorescence of biopsied tissues
  Molecular: Northern, Southern, and Western blotting, polymerase chain reaction, genetic mapping techniques, gene sequencing, and gene expression analysis
  Monoclonal antibody production
  Transgenic and gene knockout animals

Principles of genetic and proteomic analysis: genetic epidemiology, gene transcription, and protein expression analysis
Clinical analysis

Synovial fluid analysis
Appropriate use and interpretation of serologic, chemical, biochemical, and microbiologic laboratory tests

Diagnostic imaging techniques
Plain radiographs: in the assessment of normal and diseased joints, bones, and periarticular structures and prosthetic joints
Computed tomography, magnetic resonance imaging, radionuclide scanning, bone densitometry, and arteriography: principles of imaging of joints, bones, and periarticular structures and tissues
Ultrasonography: principles of imaging of joints and periarticular structures and tissues
Electromyograms and nerve conduction studies: indications for and interpretation of results

Biopsy and pathology: diagnostic interpretation of pathologic specimens of specific tissues

Pharmacology: dosing, pharmacokinetics, metabolism, mechanisms of action, adverse effects, and drug interactions

Nonsteroidal anti-inflammatory drugs
Glucocorticoids: topical, intra-articular, and systemic
Systemic antirheumatic drugs
  Disease-modifying antirheumatic drugs (DMARDs)
  and immunosuppressive, cytotoxic, and immunomodulatory drugs
Biologics
Urate-lowering therapy
Antiresorptive bone agents
Anabolic bone agents
Antibiotic therapy for septic joints
Opioid and nonopioid analgesics
Colchicine
Plasma exchange
Vaccines
Intravenous immunoglobulin (IVIG)
### Crystal-induced Arthropathies

<table>
<thead>
<tr>
<th>Condition</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gout</td>
<td>2.5%</td>
</tr>
</tbody>
</table>

**Primary gout**
- Asymptomatic hyperuricemia
- Acute gout
- Intercritical periods
- Tophaceous gout
- Conditions associated with gout
- Lead intoxication

**Secondary gout**
- Lesch-Nyhan syndrome

**Other secondary types of gout**

**Calcium pyrophosphate dihydrate deposition (CPPD)**
- Familial
- Secondary to primary metabolic disorders
- Idiopathic CPPD

**Basic calcium phosphate crystal deposition**

### Infections and Related Arthritis

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Infections</td>
<td>5%</td>
</tr>
</tbody>
</table>
- Bacterial (nongonococcal and gonococcal)
  - Native joint
  - Prosthetic joint
  - Spine
  - Bone
  - Soft tissue
- Mycobacterial
- Spirochetal (syphilis, Lyme disease)
- Viral (human immunodeficiency virus [HIV], hepatitis B virus, hepatitis C virus, parvovirus, chikungunya virus, and others)
- Fungal
- Parasitic
- Whipple’s disease

**Related arthritides**
- Acute rheumatic fever and poststreptococcal arthritis
- Arthritis associated with bacterial endocarditis
- Postimmunization arthritis
### Metabolic Bone Disease 5.5% of Exam

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low bone mass</td>
<td>&lt;2%</td>
</tr>
<tr>
<td><strong>Osteoporosis</strong></td>
<td>2.5%</td>
</tr>
<tr>
<td><strong>Primary</strong></td>
<td></td>
</tr>
<tr>
<td>Postmenopausal</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td></td>
</tr>
<tr>
<td><strong>Secondary</strong></td>
<td></td>
</tr>
<tr>
<td>Medication-induced</td>
<td></td>
</tr>
<tr>
<td><strong>Other causes of bone loss</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Paget’s disease of bone</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Bone disease related to renal disease</td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Osteomalacia</td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>

### Osteoarthritis and Related Disorders 5% of Exam

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Osteoarthritis</strong></td>
<td>3%</td>
</tr>
<tr>
<td><strong>Diffuse idiopathic skeletal hyperostosis (DISH)</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td><strong>Malignant and nonmalignant tumors of bones, tendons, and joints</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>- Benign tumors</td>
<td></td>
</tr>
<tr>
<td>- Malignant tumors</td>
<td></td>
</tr>
<tr>
<td><strong>Osteonecrosis</strong></td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>

### Rheumatoid Arthritis 13% of Exam

<table>
<thead>
<tr>
<th>Description</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Seropositive rheumatoid arthritis</strong></td>
<td>8%</td>
</tr>
<tr>
<td>- Early disease</td>
<td></td>
</tr>
<tr>
<td>- Established disease</td>
<td></td>
</tr>
<tr>
<td>- Late disease</td>
<td></td>
</tr>
<tr>
<td><strong>Seronegative inflammatory polyarthritis</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td><strong>Complications of established disease</strong></td>
<td>4%</td>
</tr>
<tr>
<td>- Extra-articular manifestations</td>
<td></td>
</tr>
<tr>
<td>- Cardiovascular disease: atherosclerotic cardiovascular disease and congestive heart failure</td>
<td></td>
</tr>
<tr>
<td>- Malignancy</td>
<td></td>
</tr>
<tr>
<td>- Vasculitis</td>
<td></td>
</tr>
<tr>
<td>- Immunologic considerations</td>
<td></td>
</tr>
<tr>
<td>Seronegative Spondyloarthropathies</td>
<td>6.5% of Exam</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>--------------</td>
</tr>
<tr>
<td><strong>Ankylosing spondylitis</strong></td>
<td>2%</td>
</tr>
<tr>
<td>Skeletal manifestations</td>
<td></td>
</tr>
<tr>
<td>Extra-articular manifestations</td>
<td></td>
</tr>
<tr>
<td><strong>Reactive arthritis</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Skeletal manifestations</td>
<td></td>
</tr>
<tr>
<td>Extra-articular manifestations</td>
<td></td>
</tr>
<tr>
<td><strong>Arthopathy associated with inflammatory bowel disease (IBD)</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Skeletal manifestations</td>
<td></td>
</tr>
<tr>
<td>Extra-articular manifestations</td>
<td></td>
</tr>
<tr>
<td><strong>Psoriatic arthropathy</strong></td>
<td>2%</td>
</tr>
<tr>
<td>Skeletal manifestations</td>
<td></td>
</tr>
<tr>
<td>Extra-articular manifestations</td>
<td></td>
</tr>
<tr>
<td><strong>Arthritis associated with other skin diseases</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>SAPHO syndrome (synovitis, acne, pustulosis, hyperostosis, and osteitis)</td>
<td></td>
</tr>
<tr>
<td><strong>Undifferentiated spondyloarthropathies</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Skeletal manifestations</td>
<td></td>
</tr>
<tr>
<td>Extra-articular manifestations</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Other Rheumatic and Connective Tissue Disorders (ORCT)</th>
<th>16.5% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Raynaud's phenomenon</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td><strong>Primarily fibrosing rheumatic diseases</strong></td>
<td>3%</td>
</tr>
<tr>
<td>Systemic sclerosis</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td></td>
</tr>
<tr>
<td>Gastrointestinal</td>
<td></td>
</tr>
<tr>
<td>Cardiac</td>
<td></td>
</tr>
<tr>
<td>Pulmonary</td>
<td></td>
</tr>
<tr>
<td>Renal</td>
<td></td>
</tr>
<tr>
<td>Scleroderma mimics</td>
<td></td>
</tr>
<tr>
<td>Scleromyxedema</td>
<td></td>
</tr>
<tr>
<td>Nephrogenic fibrosis</td>
<td></td>
</tr>
<tr>
<td>Scleredema</td>
<td></td>
</tr>
<tr>
<td>Eosinophilic fasciitis</td>
<td></td>
</tr>
<tr>
<td>Retroperitoneal fibrosis (Ormond disease)</td>
<td></td>
</tr>
<tr>
<td><strong>Primarily myopathic rheumatic diseases</strong></td>
<td>3%</td>
</tr>
<tr>
<td>Polymyositis</td>
<td></td>
</tr>
<tr>
<td>Dermatomyositis</td>
<td></td>
</tr>
<tr>
<td>Inclusion body myositis</td>
<td></td>
</tr>
</tbody>
</table>
Metabolic myopathies
Medication-associated
Critical illness-associated

Sjögren’s syndrome <2%
Primary antiphospholipid antibody syndrome <2%
Primarily skin-associated rheumatic diseases <2%
  Erythema nodosum
  Other forms of panniculitis
  Multicentric reticulohistiocytosis

Fever-associated rheumatic disorders <2%
  Autoinflammatory disorders
  Adult-onset Still’s disease (AOSD)
  Hemophagocytic lymphohistiocytosis and macrophage
  activation syndrome (HLH/MAS)

Primarily joint-associated rheumatic diseases <2%
  Polymyalgia rheumatica (PMR)
  Remitting seronegative symmetric synovitis
    with pitting edema (RS3PE)
  Palindromic rheumatism

Miscellaneous rheumatic disorders 2%
  Autoimmune hearing loss
  Autoimmune eye disease
  IgG4-related disease
  Relapsing polychondritis
  Overlap syndromes
  Undifferentiated connective tissue disease
  Mixed connective tissue disease

Pediatric disorders 2%
  Juvenile idiopathic arthritis (JIA)
    Childhood disease
    Complications in adulthood
  Kawasaki disease (KD)
  Juvenile dermatomyositis (JDM)
  Juvenile localized scleroderma (JLS)
  Pediatric joint disorders seen in adulthood
    Developmental dysplasia of the hip (DDH)
    Slipped capital femoral epiphysis (SCFE)
    Legg-Calvé-Perthes disease
**Lupus Erythematosus**

9% of Exam

- **Drug-induced**
  - <2%

- **Cutaneous**
  - Isolated
  - <2%
  - In systemic disease

- **Systemic**
  - 7.5%
    - **Renal**
      - Immune-mediated glomerular and tubular disease
      - Antiphospholipid antibody syndrome and microangiopathies
      - Renal insufficiency and hypertension
      - Urologic complications
    - **Neurologic**
      - Central nervous system: inflammatory, vaso-occlusive, microangiopathies, and others
      - Spinal cord
      - Peripheral nerves
      - Neuromyelitis optica
      - Affective disorders
    - **Pulmonary**
      - Pneumonitis
      - Thromboembolism
      - Pulmonary hypertension
      - Pneumonia
    - **Cardiovascular**
      - Myocardial disease
      - Valvular disease
      - Accelerated atherosclerosis
    - **Serositis**
    - **Hematologic**
      - Autoimmune cytopenias
      - Hemolytic uremic syndrome (HUS) and thrombotic thrombocytopenic purpura (TTP)
      - Autoimmune clotting factor deficiencies (overlap with antiphospholipid antibody syndrome)
    - **Musculoskeletal**
      - Joints, tendons, and ligaments
      - Muscle disease
    - **Lupus in pregnancy**
    - **Neonatal lupus**
    - **Vasculitis**
Antiphospholipid antibody syndrome (APS)
Clinical features excluding pregnancy
Pregnancy
Catastrophic APS

<table>
<thead>
<tr>
<th>Nonarticular and Regional Musculoskeletal Disorders</th>
<th>7% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Diffuse pain syndromes</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Fibromyalgia</td>
<td></td>
</tr>
<tr>
<td>Complex regional pain syndrome</td>
<td></td>
</tr>
<tr>
<td>(reflex sympathetic dystrophy)</td>
<td></td>
</tr>
<tr>
<td>Medication-induced diffuse pain</td>
<td></td>
</tr>
<tr>
<td><strong>Regional musculoskeletal disorders</strong></td>
<td>5%</td>
</tr>
<tr>
<td>Axial syndromes</td>
<td></td>
</tr>
<tr>
<td>Back pain</td>
<td></td>
</tr>
<tr>
<td>Neck pain</td>
<td></td>
</tr>
<tr>
<td>Thoracic outlet syndrome</td>
<td></td>
</tr>
<tr>
<td>Shoulder disorders</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td></td>
</tr>
<tr>
<td>Soft tissue</td>
<td></td>
</tr>
<tr>
<td>Elbow disorders</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td></td>
</tr>
<tr>
<td>Soft tissue</td>
<td></td>
</tr>
<tr>
<td>Wrist and hand disorders</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td></td>
</tr>
<tr>
<td>Soft tissue</td>
<td></td>
</tr>
<tr>
<td>Hip disorders</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td></td>
</tr>
<tr>
<td>Soft tissue</td>
<td></td>
</tr>
<tr>
<td>Knee disorders</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td></td>
</tr>
<tr>
<td>Soft tissue</td>
<td></td>
</tr>
<tr>
<td>Ankle and foot disorders</td>
<td></td>
</tr>
<tr>
<td>Joint</td>
<td></td>
</tr>
<tr>
<td>Soft tissue</td>
<td></td>
</tr>
<tr>
<td>Leg disorders</td>
<td></td>
</tr>
<tr>
<td><strong>Neuropathies</strong></td>
<td>&lt;2%</td>
</tr>
<tr>
<td>Axial disorders</td>
<td></td>
</tr>
<tr>
<td>Peripheral disorders</td>
<td></td>
</tr>
<tr>
<td>Entrapment neuropathies</td>
<td></td>
</tr>
<tr>
<td>Mononeuritis multiplex</td>
<td></td>
</tr>
</tbody>
</table>
### Nonrheumatic Systemic Disorders

#### 9% of Exam

**Hereditary, congenital, and inborn errors of metabolism associated with rheumatic syndromes**

<2%

- Disorders of connective tissue
  - Marfan syndrome
  - Osteogenesis imperfecta
  - Ehlers-Danlos syndromes
  - Pseudoxanthoma elasticum
  - Hypermobility syndrome
- Mucopolysaccharidoses
- Osteochondrodysplasias
  - Multiple epiphyseal dysplasia
  - Spondyloepiphyseal dysplasia
- Inborn errors of metabolism affecting connective tissue
  - Homocystinuria
  - Ochronosis

**Storage disorders**

**Immunodeficiencies**

<2%

- Immunoglobulin A (IgA) deficiency
- Complement component deficiencies
- Severe combined immunodeficiency (SCID) and adenosine deaminase (ADA) deficiency
- Purine nucleoside phosphorylase (PNP) deficiency
- Common variable immunodeficiency

**Metabolic-associated rheumatic disorders**

2.5%

- Diabetes mellitus
- Acromegaly
- Thyroid disease
- Cushing’s disease
- Parathyroid disease
- Renal failure and dialysis

**Hematologic and oncologic malignancy-associated rheumatic disorders**

3%

- Amyloidosis
  - Primary
  - Secondary
  - Hereditary
Lymphoma
Myelodysplastic syndromes
Leukemia
Solid tumors
Plasma cell dyscrasias
Hemoglobinopathies
  Sickle cell
Hemophilias

**Arthritic and rheumatic disorders** 2%
  Hemochromatosis
  Myositis ossificans progressiva
  Wilson disease
  Sarcoidosis
  Hypertrophic osteoarthropathy
  Scurvy
  Pancreatic disease
  Primary biliary cirrhosis
  Cystic fibrosis
  Graft-versus-host disease
  Celiac disease
  Drug-associated
  Environmental agent-associated

**Neurologic** <2%
  Amyotrophic lateral sclerosis (ALS)
  Neuropathic arthropathy

<table>
<thead>
<tr>
<th>Vasculitides</th>
<th>8.5% of Exam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-vessel vasculitis</td>
<td>&lt;2%</td>
</tr>
</tbody>
</table>
  Takayasu’s arteritis
  Giant cell arteritis
| Medium-vessel vasculitis | <2% |
  Polyarteritis nodosa
| Small-vessel vasculitis | 2.5% |
  Antineutrophil cytoplasmic antibody (ANCA)-associated vasculitis
    Granulomatosis with polyangiitis (Wegener’s)
  Microscopic polyangiitis
  Eosinophilic granulomatosis with polyangiitis (Churg-Strauss)
  Immune complex small-vessel vasculitis
    Anti-glomerular basement membrane disease
Cryoglobulinemic vasculitis
IgA vasculitis (Henoch-Schönlein purpura)
Hypocomplementemic urticarial vasculitis
(anti-C1q vasculitis)

**Variable-vessel vasculitis** <2%
- Behçet’s disease
- Cogan’s syndrome

**Single-organ vasculitis** <2%
- Cutaneous leukocytoclastic angiitis
- Cutaneous arteritis
- Primary central nervous system angiitis
- Isolated aortitis

**Vasculitis associated with probable etiology** <2%
- Hepatitis C virus-associated cryoglobulinemic vasculitis
- Hepatitis B virus-associated vasculitis
- Syphilis-associated aortitis
- Drug-induced vasculitis
  - Drug-induced ANCA-associated vasculitis
  - Drug-induced immune complex vasculitis
  - Other drug-induced vasculitis
- Cancer-associated vasculitis

**Vasculitis mimickers** <2%
- Buerger’s disease (thromboangiitis obliterans)
- Cholesterol emboli
- Fibromuscular dysplasia
- Segmented arterial mediolysis
- Warfarin necrosis
- Reversible cerebral vasoconstriction syndrome
- Moyamoya disease
- Atrial myxoma
- Ergotism
- Endocarditis
- Calciphylaxis

**Miscellaneous Topics** **2%** of Exam

**Arthrocentesis and injections** <2%
- Anatomy
- Precautions
- Potential sequelae
General clinical care

Rehabilitation in rheumatic diseases
  Exercise
  Rest and splinting
  Thermal modalities
  Adaptive equipment and assistive devices
  Footwear and orthotics
  Functional status and disability determination

Pain management
  Physiology of pain
  Opioid contract

Psychosocial aspects of rheumatic diseases
  Psychological and emotional factors including sexuality
  Economic and vocational issues

Perioperative management of rheumatic diseases
  Preoperative assessment
  Perioperative assessment
  Perioperative medication management
  Postoperative management

Nutrition
  Complementary and alternative practices

Treatment adherence

Barriers
  Health literacy

Professionalism and ethical behavior

Medicolegal issues
  Compliance with Health Insurance Portability and Accountability Act of 1996 (HIPAA)
  Ethical dilemmas

Professionalism
  Conflict of interest
  Impaired physician

Communication
  Interpersonal communication skills
  Use of medical interpreters

January, 2017