

TABLE 77-1 CLINICAL CHARACTERISTICS OF RHEUMATOID ARTHRITIS

ARTICULAR FEATURES	EXTRA-ARTICULAR FEATURES
Morning stiffness or gelling	Rheumatoid nodules: subcutaneous, pulmonary, sclera
Symmetrical joint swelling	Lung disease
Predilection for wrists and proximal interphalangeal, metacarpophalangeal, and metatarsophalangeal joints	Vasculitis, especially skin and peripheral nerves
Erosions of bone and cartilage	Pleuropericarditis
Joint subluxation and ulnar deviation	Scleritis and episcleritis
Inflammatory joint fluid	Leg ulcers
Carpal tunnel syndrome	Felty's syndrome
Baker's cyst	

often are visible radiographically at the margins of bone and cartilage, the sites of synovial attachment. However, not all patients with RA have erosive disease. Tenosynovitis (i.e., inflammation of tendon sheaths) leads to tendon malalignment and stretching or shortening.

Common deformities are ulnar deviation at the metacarpophalangeal joints and volar subluxation at those joints and at the wrists. Flexion and extension contractures in the proximal and distal interphalangeal (PIP and DIP) joints of the fingers lead to the characteristic swan-neck deformity (i.e., flexion contracture at the DIP joint and hyperextension at the PIP joint) or boutonnière deformity (i.e., flexion contracture at the PIP and hyperextension at the DIP joint).

Synovitis at the wrists can lead to median nerve compression and carpal tunnel syndrome. Rarely, long-standing cervical spine disease may lead to C1-C2 subluxation and spinal cord compression. Rupture of synovial fluid from the knee into the calf (i.e., Baker's cyst) may mimic deep vein thrombosis or occasionally imitate cellulitis.

Extra-articular Manifestations

RA is a systemic disease with multiple extra-articular manifestations (see [Table 77-1](#)). Constitutional symptoms include fatigue, low-grade fever, weight loss, and myalgia. Extra-articular manifestations are more common in RF-positive patients with uncontrolled articular disease. On the skin, grossly palpable subcutaneous rheumatoid nodules are common along other extensor tendon surfaces, especially at the elbows, and are associated with RF positivity. Less commonly, rheumatoid nodules may occur in the lungs, pleura, pericardium, sclerae, and other sites, including the heart in rare cases. In the eyes, RA commonly is associated with keratoconjunctivitis sicca with coexistent Sjögren syndrome and less often with scleritis and episcleritis.

Lung involvement in RA usually includes interstitial lung disease and may include pleuropericarditis, producing pleural and pericardial effusions. The cardiovascular effects of RA can range from long-term inflammation leading to progressive coronary artery disease to pericarditis to a small and medium-sized vasculitis. The vasculitis of RA can produce cutaneous lesions (e.g., ulcers, skin necrosis) and mononeuritis multiplex.

RA commonly has hematologic complications and is associated with anemia of chronic disease and thrombocytosis. Patients with RA also have an increased incidence of lymphoma. Felty's syndrome (i.e., splenomegaly, leukopenia, and recurrent

TABLE 77-2 2010 ACR/EULAR CLASSIFICATION CRITERIA FOR RHEUMATOID ARTHRITIS

For patients who have at least 1 joint with definite synovitis and for whom the synovitis is not better explained by another disease, a score of at least 6 of 10 points is needed for the classification of definite rheumatoid arthritis.

- A. Joint involvement (0-5 points)
 - 1 large joint (0)
 - 2-10 large joints (1)
 - 1-3 small joints (with or without involvement of large joints) (2)
 - 4-10 small joints (or without involvement of large joints) (3)
 - >10 joints (with involvement of at least 1 small joint) (5)
- B. Serology (0-3 points)
 - Negative RF and negative anti-CCP (0)
 - Low-positive RF or low-positive anti-CCP (2)
 - High positive RF or high positive anti-CCP (3)
- C. Acute phase reactants (0-1 points)
 - Normal CRP and normal ESR (0)
 - Abnormal CRP or abnormal ESR (1)
- D. Duration of symptoms (0-1 points)
 - <6 weeks (0)
 - ≥6 weeks (1)

Aletaha D, Neogi T, Silman AJ, et al: 2010 Rheumatoid arthritis classification criteria: an American College of Rheumatology/European League Against Rheumatism collaborative initiative, *Arthritis Rheum* 62:2569-2581, 2010.

ACR, American College of Rheumatology; CCP, cyclic citrullinated peptide; CRP, C-reactive protein; ESR, erythrocyte sedimentation rate; EULAR, European League Against Rheumatism; RF, rheumatoid factor.

pulmonary infections) is a rare complication and is often accompanied by leg ulcers and vasculitis.

DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS

RA is a clinical diagnosis based on a thorough history and physical examination. Classic symptoms include morning stiffness associated with symmetrical synovitis of small joints. No single diagnostic test enables a diagnosis of RA to be made with certainty. Instead, the diagnosis depends on the accumulation of characteristic symptoms, signs, laboratory data, and radiologic findings.

Classification criteria are useful in guiding the clinical diagnosis of RA. The classification criteria have been updated to include early RA ([Table 77-2](#)) because prompt diagnosis and treatment are important to prevent disease progression, joint deformities, and disability.

The differential diagnosis for RA includes viral arthritis (e.g., parvovirus, rubella, hepatitis B and C), thyroid disorders, sarcoidosis, reactive arthritis, psoriatic arthritis, Sjögren syndrome, systemic lupus erythematosus (SLE), bacterial endocarditis, rheumatic fever, calcium pyrophosphate disease (CPPD), chronic tophaceous gout, polymyalgia rheumatic, erosive osteoarthritis, and fibromyalgia. A history and physical examination, including a thorough review of systems, help to determine the diagnosis.

RF is an antibody (typically IgM but also IgG or others) that binds to the Fc fragment of IgG. RF and IgG join to form immune complexes that are detectable in the serum of 70% to 80% of patients with RA. However, RF is not specific for RA and frequently occurs in patients with SLE, Sjögren syndrome, endocarditis, sarcoidosis, and lung and liver diseases (including hepatitis B and C infection) and in healthy individuals. In an individual patient, the titer does not correlate with disease activity, but high titers are associated with severe erosive arthritis and extra-articular disease. The finding of RF in serum alone does not