Rheumatoid arthritis (RA) is an autoimmune disorder of unknown etiology characterized by symmetric, erosive synovitis and, in some cases, extraarticular involvement. Most patients experience a chronic fluctuating course of disease that, despite therapy, may result in progressive joint destruction, deformity, disability, and even premature death. RA results in more than 9 million physician visits and more than 250,000 hospitalizations per year. Disability from RA causes major economic loss and can have a profound impact on families. RA affects 1% of the adult population. This low prevalence means that the average physician often develops little experience with its diagnosis or management.

Goals of RA Management and Evaluation of RA
(Source: ACR, 2002)

The goals of managing RA include prevention or control of joint damage and loss of function, as well as decrease pain. Initial steps in the management of RA include establishing the diagnosis, performing a baseline evaluation, and estimate the prognosis. The initial baseline evaluation of a member with RA should include:

1) Subjective Evaluation
   - Document symptoms of active disease (e.g., presence of joint pain and morning stiffness, degree of fatigue)
   - Assess limitation of function

2) Objective Physical Examination (including assessment of the following):
   - Actively inflamed joints (synovitis as assessed by tender and swollen joint counts and the ESR and CRP level)
   - Mechanical joint problems including loss of motion, crepitus, instability, malalignment, and/or deformity
   - Presence of extraarticular disease
   - Presence of radiographic damage to selected involved joints
   - Presence of co-morbid conditions

3) Baseline laboratory assessments including:
   - Measurement of erythrocyte sedimentation rate (ESR)/C-reactive protein (CRP)
   - Rheumatoid factor (RF) measurement
   - Complete blood cell count with white blood cell differential and platelet counts
   - Electrolyte levels
   - Creatinine levels
   - Hepatic enzyme levels (AST, ALT, and albumin)
   - Urinalysis
   - Stool guaiac
   - Synovial fluid analysis

   a Performed only at baseline to establish the diagnosis. If initially negative, may be repeated 6-12 months after disease onset
   b Performed at baseline, before starting medications, to assess organ dysfunction due to co-morbid diseases
   c Performed at baseline, if necessary, to rule out other diseases. May be repeated during disease flares to rule out septic arthritis
4) Other assessment including:
- Functional status or quality of life assessments using standardized questionnaires like the Arthritis Impact Measurement Scales or the Health Assessment Questionnaire
- Physician's global assessment of disease activity
- Member's global assessment of disease activity

Assessment of Disease Activity
(Source: ACR, 2002)

At each visit, evaluate for subjective and objective evidence of active disease:
- Degree of joint pain (by visual analog scale)
- Duration of morning stiffness
- Duration of fatigue
- Presence of actively inflamed joints on examination (tender and swollen joint counts)
- Limitation of function

Periodically evaluate for disease activity or disease progression:
- Evidence of disease progression on physical examination (loss of motion, instability, malalignment, and/or deformity)
- Erythrocyte sedimentation rate or C-reactive protein elevation
- Progression of radiographic damage of involved joints

Other parameters for assessing response to treatment (outcome):
- Physician's global assessment of disease activity
- Patient’s global assessment of disease activity
- Functional status or quality of life assessment using standardized questionnaires (see below)

Instruments Used to Measure Rheumatoid Arthritis Disease Activity
(Source: Singh & et al., 2012)

<table>
<thead>
<tr>
<th>Instrument</th>
<th>Score Range</th>
<th>Remission</th>
<th>Low Activity</th>
<th>Moderate Activity</th>
<th>High Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient Activity Scale (PAS) or PAS-II</td>
<td>0 – 10.0</td>
<td>0 – 0.25</td>
<td>0.26 – 3.7</td>
<td>3.71 - &lt; 8.0</td>
<td>≥ 8.0</td>
</tr>
<tr>
<td>Routine Assessment Patient Index Data</td>
<td>0 – 10.0</td>
<td>0 – 1.0</td>
<td>&gt; 1.0 – 2.0</td>
<td>&gt; 2.0 – 4.0</td>
<td>&gt; 4.0 – 10</td>
</tr>
<tr>
<td>Clinical Disease Activity Index</td>
<td>0 – 76.0</td>
<td>≤ 2.8</td>
<td>&gt;2.8 – 10.0</td>
<td>&gt; 10 – 22</td>
<td>&gt; 22</td>
</tr>
<tr>
<td>Disease Activity Score in 28 Joints</td>
<td>0 – 9.4</td>
<td>&lt; 2.6</td>
<td>≥ 2.6 – &lt; 3.2</td>
<td>≥ 3.2 – ≤ 5.1</td>
<td>&gt; 5.1</td>
</tr>
<tr>
<td>Simplified Disease Activity Index</td>
<td>0 – 86.0</td>
<td>≤ 3.3</td>
<td>&gt; 3.3 – ≤ 11.0</td>
<td>&gt; 11.0 – ≤ 26</td>
<td>&gt; 26</td>
</tr>
</tbody>
</table>

Non-Pharmacologic Treatment of RA
(Source: ACR, 2002)

Optimal management of RA involves more than pharmacologic therapy. Rheumatologists, other physicians, and their office staff play important roles in educating the patient and the patient’s family about the disease and providing longitudinal supportive care. The Arthritis Foundation is also an important source of educational material and/or programs.

Non-pharmacologic treatments of RA included (but are not limited to):
- Instruction in joint protection
- Conservation of energy
- Home program of joint range of motion and strengthening exercises
- Physical and occupational therapy (may help patients with compromised activities of daily living)
- Regular participation in dynamic and even aerobic conditioning exercise programs (can improve joint mobility, muscle strength, aerobic fitness and function and psychological well-being)
- Psychological counseling (may benefit those struggling emotionally as they adjust to living with a chronic disease)

**Pharmacologic Treatment of RA**
(Source: ACR, 2002)


ACR direct link: http://www.rheumatology.org/practice/clinical/guidelines/raguidelines02.pdf

### Non-Steroidal anti-inflammatory drugs (NSAIDs)
This group of medications helps relieve both pain and inflammation if taken regularly. These medications include aspirin, ibuprofen, ketoprofen and naproxen sodium. NSAIDs only available by prescription include stronger doses of ketoprofen, naproxen and ibuprofen as well as tolmetin, diclofenac, nabumetone and indomethacin.

#### COX-2 inhibitors
This class of NSAIDs may be less damaging to your stomach. Like other NSAIDs, COX-2 inhibitors, like celecoxib, suppress an enzyme called cyclooxygenase (COX) that is active in joint inflammation. Other types of NSAIDs work against two versions of the COX enzyme that are present in your body: COX-1 and COX-2. However, there is evidence that by suppressing COX-1, NSAIDs may cause stomach and other problems because COX-1 is the enzyme that protects your stomach lining. Unlike other NSAIDs, COX-2 inhibitors suppress only COX-2, the enzyme involved in inflammation.

#### Corticosteroids
These medications, such as prednisone and methylprednisolone, reduce inflammation and pain, and slow joint damage. In the short term, corticosteroids can make you feel dramatically better. But when used for many months or years, they may become less effective and cause serious side effects.

### Disease-modifying anti-rheumatic drugs (DMARDs)
Physicians prescribe DMARDs to limit the amount of joint damage that occurs with rheumatoid arthritis. Taking these drugs early in the development of rheumatoid arthritis is especially important in the effort to slow the disease and save the joints and other tissues from permanent damage. Because many of these drugs act slowly — it may take weeks to months before you notice any benefit — DMARDs typically are used with an NSAID or a corticosteroid. While the NSAID or corticosteroid addresses immediate symptoms and limits inflammation, the DMARD works on the disease itself. Some commonly used DMARDs include hydroxychloroquine, the gold compound auranofin, sulfasalazine and minocycline. Other forms of DMARDs include immunosuppressants and tumor necrosis factor (TNF) blockers.

### Immunosuppressants
These medications act to tame the body's immune system. In addition, some attack and eliminate cells associated with the disease. Some of the commonly used immunosuppressants include methotrexate, leflunomide, azathioprine, cyclosporine and cyclophosphamide. These medications can have potentially serious side effects such as increased susceptibility to infection.

### Tumor Necrosis Factor (TNF) blockers
This class of DMARDs is known as biologic response modifiers. TNF is a cytokine, or cell protein, that acts as an inflammatory agent in rheumatoid arthritis. TNF blockers, or anti-TNF medications, target or block this cytokine and can help reduce pain, morning stiffness and tender or swollen joints — usually within one or two weeks after treatment begins. There is evidence that TNF blockers may halt progression of disease. These medications often are taken with the
immunosuppressant methotrexate. TNF blockers approved for treatment of rheumatoid arthritis are golimumab, etanercept, infliximab and adalimumab. TNF blockers should not be used if you have an active infection.

**Interleukin-1 receptor antagonist (IL-1Ra)**

IL-1Ra is another biologic response modifier. Interleukin-1 (IL-1) is a cell protein that promotes inflammation; large amounts are found in people who have rheumatoid arthritis or other types of inflammatory arthritis. If IL-1 is prevented from binding to its receptor, the inflammatory response decreases. Anakinra is the first IL-1Ra approved by the Food and Drug Administration for use in people with moderate to severe rheumatoid arthritis who have not responded adequately to conventional DMARD therapy. It may be used alone or in combination with methotrexate. Anakinra is given as a daily self-administered injection under the skin and should not be used if you have an active infection.

**Surgical Treatment of RA**

(Source: ACR, 2002)

Surgical procedures should be considered for patients with unacceptable levels of pain, loss of range of motion, or limitation of function because of structural joint damage. Procedures for RA include (but are not limited to):

- Carpal tunnel release
- Synovectomy
- Resection of the metatarsal heads
- Total joint arthroplasty
- Joint fusion

New prosthetic materials and cements for fixing joint prostheses have greatly advanced the prevention of aseptic loosening and have increased the longevity of total joint prostheses in patients with RA.

Preoperative functional status is an important determinant of the rate of recovery of functional independence after surgery. Strategies for increasing functional recovery include optimization of preoperative functional status and early surgical intervention. The pre- and postoperative team should include health care professionals who have performed large numbers of the particular surgical procedure and are experienced in the care of patients with RA.

**Responsibilities of Primary and Specialty Care Physicians**

(Source: ACR, 2002)

Depending on the health care setting, the majority of the care of patients with RA may be provided by a single physician (primary care physician or rheumatologist who also provides primary care) or the responsibility may be shared. The role of the primary care physician is to recognize and diagnose RA at its onset and to ensure that the patient receives timely treatment before permanent joint damage has occurred. The rheumatologist should provide support and consultation to the patient and his or her primary care physician in the diagnosis and treatment of the RA.

Since the level of training and experience in diagnosing and managing RA varies among primary care physicians, the responsibility for accurate diagnosis and monitoring of RA activity and/or drug toxicity may appropriately be assigned to a rheumatologist. If the care of a patient with RA is to be shared, an explicit plan for monitoring RA disease activity and/or drug toxicity needs to be formulated. The patient’s preference may be the most important factor in deciding which physician(s) assumes responsibility for care.

A general health maintenance strategy should be developed, and responsibility for this strategy should be coordinated among the patient’s health care providers. Routine prevention measures, such as screening for hypertension or cancer, should be recommended and risk factors modified.

**CMS STAR METRIC**

The percentage of members who were diagnosed with rheumatoid arthritis during the measurement year (denominator), and who were dispensed at least one ambulatory prescription for a disease modifying anti-rheumatic drug (DMARD)
(numerator).

**NCQA HEDIS STANDARD**

Patients 18 years and older who were diagnosed with rheumatoid arthritis and who were dispensed at least one ambulatory prescription for a disease modifying anti-rheumatic drug during 2014.

**REFERENCES**


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**MEDICAL POLICY COMMITTEE HISTORY AND REVISIONS**

<table>
<thead>
<tr>
<th>Date</th>
<th>History and Revisions by the Medical Policy Committee</th>
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<tr>
<td>11/6/2014</td>
<td>Approved by MPC. Inclusion of CMS STAR and NCQA HEDIS measures.</td>
</tr>
<tr>
<td>11/1/2012</td>
<td>Approved by MPC. No changes.</td>
</tr>
<tr>
<td>12/1/2011</td>
<td>New template design approved by MPC.</td>
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<td>12/2010</td>
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