

Reimbursement Policy

General Inflammation Testing

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I. Policy Description

Inflammatory response can occur due to tissue injury and/or various disorders, including arthritis, lupus, and infection. Acute phase reactants, such as serum C-reactive protein (CRP), are released in the acute phase response during inflammation and can be used to monitor inflammation. Inflammation may also be measured using the simple laboratory technique of erythrocyte sedimentation rate (ESR) (Kushner, 2024).

For guidance on the use of CRP as a cardiac biomarker, please see policy AHS-G2150-Biomarkers for Myocardial Infarction and Chronic Heart Failure. For guidance on the use of CRP as a marker for acute pancreatitis, please see AHS-G2153-Pancreatic Enzyme Testing for Acute Pancreatitis.

II. Indications and/or Limitations of Coverage

Application of coverage criteria is dependent upon an individual's benefit coverage at the time of the request. Specifications pertaining to Medicare and Medicaid can be found in the "Applicable State and Federal Regulations" section of this policy document.

- 1) Measurement of C-reactive protein (CRP) and/or erythrocyte sedimentation rate (ESR) **MEETS COVERAGE CRITERIA** for inflammatory conditions as specified in Note 1.
- 2) For individuals without a diagnosed inflammatory condition, measurement of ESR **DOES NOT MEET COVERAGE CRITERIA**.
- 3) Measurement of CRP and/or ESR during general exam without abnormal findings **DOES NOT MEET COVERAGE CRITERIA**.

NOTES:

Note 1: Coverage of CRP, ESR, CRP or ESR, or both CRP and ESR is designated based on the diagnosed or suspected inflammatory condition. Either conventional or high-sensitivity CRP testing are allowed methods of testing for CRP levels. When either CRP **or** ESR are allowed, CRP is the preferred biomarker.

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Condition	Test Preference	Frequency of Testing
Acute and Chronic Urticaria	CRP or ESR	Not specified (NS)
Acute Hematogenous Osteomyelitis (AHO)	CRP	To confirm diagnosis; 2 to 3 days during the early therapeutic course; weekly until normalization (or a clear trend toward normalization is evident)
Acute Phase Inflammation	CRP	NS
Ankylosing Spondylitis	CRP or ESR	Regular interval use in patients with active symptoms
Arthritis	CRP and ESR	1-3 months initially; 6-12 months later
Castleman's Disease	CRP	NS
General Inflammation	CRP	NS
Hodgkin Lymphoma	ESR	Every 3 to 6 months for 1 to 2 years; every 6 to 12 months for the next 3 years; annually thereafter
Irritable Bowel Syndrome	CRP and ESR	During initial assessment to exclude other diagnoses
Large Vessel Vasculitis (Giant Cell Arteritis, Takayasu Arteritis)	CRP and ESR	To confirm diagnosis; every 1-3 months during the first year; every 3-6 months thereafter
Nonradiographic axial spondyloarthritis	CRP or ESR	Regular interval use in patients with active symptoms
Polymyalgia Rheumatica	CRP or ESR	At initial diagnosis; every 3 months during long-term steroid therapy
Periprosthetic Joint Infections (PJI)	CRP and ESR	NS
Rheumatoid Arthritis	CRP or ESR	Prior to treatment; every 1-3 months during active disease;

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		annually when disease is inactive
Systemic Lupus Erythematosus	CRP or ESR	At initial assessment; every 1-3 months during active disease; every 6-12 months during stable disease; during pregnancy
T-cell lymphomas	ESR	NS

III. Applicable State and Federal Regulations

DISCLAIMER: If there is a conflict between this Policy and any relevant, applicable government policy for a particular member [e.g., Local Coverage Determinations (LCDs) or National Coverage Determinations (NCDs) for Medicare and/or state coverage for Medicaid], then the government policy will be used to make the determination. For the most up-to-date Medicare policies and coverage, please visit the Medicare search website: <https://www.cms.gov/medicare-coverage-database/search.aspx>. For the most up-to-date Medicaid policies and coverage, visit the applicable state Medicaid website.

Food and Drug Administration

Testing of serum acute phase reactants and ESR is performed in laboratories meeting Clinical Laboratory Improvement Act (CLIA) quality standards. The FDA has approved multiple tests for human CRP, including assays for conventional CRP, high-sensitivity CRP (hsCRP), and cardiac CRP (cCRP). On September 22, 2005, the FDA issued guidelines concerning the assessment of CRP (FDA, 2005). A search of the FDA Medical Devices database (FDA, 2018) on April 20, 2021, shows that the FDA has approved ESR systems from multiple companies, including the ESR Control -M Hematology Erythrocyte Sedimentation system (K972172) and the ESR Control -HC Hematology Erythrocyte Sedimentation system (K972170) by R & D Systems, the Seditainer Erythrocyte Sedimentation Rate System (K953994) from Becton Dickinson Vacutainer Systems, the Westergren Dispette for ESR (K831195) by Ulster Scientific, and the Dade ESR Kit (K823368) from American Dade.

Many labs have developed specific tests that they must validate and perform in house. These laboratory-developed tests (LDTs) are regulated by the Centers for Medicare and Medicaid (CMS) as high-complexity tests under the Clinical Laboratory Improvement Amendments of 1988 (CLIA '88). LDTs are not approved or cleared by the U. S. Food and Drug Administration; however, FDA clearance or approval is not currently required for clinical use.

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IV. Applicable CPT/HCPCS Procedure Codes

CPT	Code Description
85651	Sedimentation rate, erythrocyte; non-automated
85652	Sedimentation rate, erythrocyte; automated
86140	C-reactive protein
86141	C-reactive protein; high sensitivity (hsCRP)

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Procedure codes appearing in Medical Policy documents are included only as a general reference tool for each policy. They may not be all-inclusive.

V. Evidence-based Scientific References

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