I. Policy: Janus Kinase 2 (JAK 2), CALR and MPL Gene Mutation Analysis

II. Purpose/Objective:
To provide a policy of coverage regarding Janus Kinase 2 (JAK 2), CALR and MPL Gene Mutation Analysis

III. Responsibility:
A. Medical Directors
B. Medical Management

IV. Required Definitions
1. Attachment – a supporting document that is developed and maintained by the policy writer or department requiring/authoring the policy.
2. Exhibit – a supporting document developed and maintained in a department other than the department requiring/authoring the policy.
3. Devised – the date the policy was implemented.
4. Revised – the date of every revision to the policy, including typographical and grammatical changes.
5. Reviewed – the date documenting the annual review if the policy has no revisions necessary.

V. Additional Definitions
Medical Necessity or Medically Necessary means Covered Services rendered by a Health Care Provider that the Plan determines are:

a. appropriate for the symptoms and diagnosis or treatment of the Member's condition, illness, disease or injury;
b. provided for the diagnosis, and the direct care and treatment of the Member's condition, illness disease or injury;
c. in accordance with current standards of good medical treatment practiced by the general medical community.
d. not primarily for the convenience of the Member, or the Member's Health Care Provider; and
e. the most appropriate source or level of service that can safely be provided to the Member. When applied to hospitalization, this further means that the Member requires acute care as an inpatient due to the nature of the services rendered or the Member's condition, and the Member cannot receive safe or adequate care as an outpatient.

Medicaid Business Segment
Medically Necessary — A service, item, procedure, or level of care that is necessary for the proper treatment or management of an illness, injury, or disability is one that:

• Will, or is reasonably expected to, prevent the onset of an illness, condition, injury or disability.
• Will, or is reasonably expected to, reduce or ameliorate the physical, mental or developmental effects of an illness, condition, injury or disability.
• Will assist the Member to achieve or maintain maximum functional capacity in performing daily activities, taking into account both the functional capacity of the Member and those functional capacities that are appropriate for Members of the same age.

**DESCRIPTION:**
Janus Kinase 2 (JAK 2, JAK 2^{V617F}) mutation analysis has been proposed as a laboratory test to aid in the diagnosis and clinical management of patients with myeloproliferative disorder (MPD) and myeloproliferative neoplasms (MPN). CALR and MPL gene testing provides an analysis of the mutational status of exon 9 of the CALR gene. The test has been found to be useful in patients with clinical, laboratory, or pathological findings suggesting essential thrombocythemia or myelofibrosis and who have tested negative for the mutation in JAK2^{V617F}.

**INDICATIONS:**
Janus Kinase 2 (JAK 2, JAK 2^{V617F}) mutation analysis is considered medically necessary in the evaluation of:

- Adults, age 21 or older, presenting with clinical, laboratory, or pathological findings suggesting classic forms of polycythemia vera; or
- Adult’s Initial diagnostic evaluation of clinical or laboratory findings suggestive of either:
  a. essential thrombocythemia
  b. primary myelofibrosis
- In individuals with isolated idiopathic erythrocytosis, JAK2 testing may be considered only in those with a serum erythropoietin level that is below 10.

Janus Kinase 2 (JAK2; JAK2^{V617F}) gene mutation analysis is considered medically necessary in members presenting with clinical, laboratory, or pathological findings suggesting classic forms of MPD/MPN.

In members presenting with clinical, laboratory, or pathological findings suggesting classic forms of MPD/MPN who were negative for Janus Kinase 2 (JAK2; JAK2^{V617F}) gene mutation, testing for the JAK2 exon 12 gene mutation, CALR and MPL is considered medically necessary.

**EXCLUSIONS:**
Testing for Janus Kinase 2 (JAK 2, JAK 2^{V617F}) gene mutation is considered not medically necessary for any other indication including but not limited to:
- Myeloproliferative disorders (MPD) in children under the age of 21
- Quantitative JAK 2^{V617F} allele burden subsequent to qualitative detection of JAK 2^{V617F}.

Testing for the CALR or MPL gene mutation is considered not medically necessary when the criteria above have not been met.

**Medicaid Business Segment:**
Any requests for services, that do not meet criteria set in the PARP, may be evaluated on a case by case basis.

**CODING ASSOCIATED WITH:** Janus Kinase 2 (JAK 2) Gene Mutation Analysis
The following codes are included below for informational purposes and may not be all inclusive. Inclusion of a procedure or device code(s) does not constitute or imply coverage nor does it imply or guarantee provider reimbursement. Coverage is determined by the member specific benefit plan document and any applicable laws regarding coverage of specific services. Please note that per Medicare coverage rules, only specific CPT/HCPCS Codes may be covered for the Medicare Business Segment. Please consult the CMS website at www.cms.gov or the local Medicare Administrative Carrier (MAC) for more information on Medicare coverage and coding requirements.

- 81219 CALR (calreticulin) (eg, myeloproliferative disorders), gene analysis, common variants in exon 9
- 81270 JAK2 (Janus kinase 2) (eg, myeloproliferative disorder) gene analysis, p.Val617Phe (V617F) Variant
- 81279 JAK2 (Janus kinase 2)(eg, myeloproliferative disorder) targeted sequence analysis (eg, exons 12 and 13)
- 81402 Molecular pathology procedure, Level 3 (eg, > 10 SNP’s 2-10 methylated variants, or 2-10 somatic variants [typically using non-sequencing target variant analysis], immunoglobulin and T-cell receptor gene
rearrangements, duplication/deletion variants of 1 exon, loss of heterozygosity [LOH], uniparental disomy [UPD]) [when specified as the following]:

MPL (myeloproliferative leukemia virus oncogene, thrombopoietin receptor, TPOR) (eg myeloproliferative disorder), common variants (eg, W515A, W515K, W515L, W515R)

81403: Molecular pathology procedure, Level 4 (e.g., analysis of single exon by DNA sequence analysis, analysis of >10 amplicons using multiplex PCR [polymerase chain reaction] in 2 or more independent reactions, mutation scanning or duplication/deletion variants of 2-5 exons) - which includes: o JAK2 (Janus kinase 2) (e.g., myeloproliferative disorder), exon 12 sequence and exon 13 sequence, if performed

0017U Oncology (hematolymphoid neoplasia), JAK2 mutation, DNA, PCR amplification of exons 12-14 and sequence analysis, blood or bone marrow, report of JAK2 mutation not detected or detected

0027U JAK2 (Janus kinase 2) (eg, myeloproliferative disorder) gene analysis, targeted sequence analysis exons 12-15

REFERENCES:


Winifred S. Hayes, GTE Report. Janus kinase 2 (JAK2) Sequence Variants (including V617F) for Chronic Myeloproliferative Disorders. May, 2008


This policy will be revised as necessary and reviewed no less than annually.

Devised: 04/12/07

Revised: 04/08, 4/09 (wording); 4/10 (exclusion added); 3/11 (criteria clarification), 10/13; 10/15 (indication clarification); 9/20 (revise title, add coverage criteria for CALR and MPL)

Reviewed: 3/12, 3/13, 10/14, 10/16, 9/17, 9/18; 9/19, 9/21, 9/22

Geisinger Health Plan may refer collectively to health care coverage sponsors Geisinger Health Plan, Geisinger Quality Options, Inc., and Geisinger Indemnity Insurance Company, unless otherwise noted. Geisinger Health Plan is part of Geisinger, an integrated health care delivery and coverage organization.

Coverage for experimental or investigational treatments, services and procedures is specifically excluded under the member's certificate with Geisinger Health Plan. Unproven services outside of an approved clinical trial are also specifically excluded under the member's certificate with Geisinger Health Plan. This policy does not expand coverage to services or items specifically excluded from coverage in the member's certificate with Geisinger Health Plan. Additional information can be found in MP015 Experimental, Investigational or Unproven Services.

Prior authorization and/or pre-certification requirements for services or items may apply. Pre-certification lists may be found in the member’s contract specific benefit document. Prior authorization requirements can be found at https://www.geisinger.org/health-plan/providers/ghp-clinical-policies