

## Gene Expression Profile Testing for Multiple Myeloma

Last Review Date: October 12, 2018

Number: MG.MM.LA.18C3

### Medical Guideline Disclaimer

Property of EmblemHealth. All rights reserved. The treating physician or primary care provider must submit to EmblemHealth the clinical evidence that the patient meets the criteria for the treatment or surgical procedure. Without this documentation and information, EmblemHealth will not be able to properly review the request for prior authorization. The clinical review criteria expressed below reflects how EmblemHealth determines whether certain services or supplies are medically necessary. EmblemHealth established the clinical review criteria based upon a review of currently available clinical information (including clinical outcome studies in the peer-reviewed published medical literature, regulatory status of the technology, evidence-based guidelines of public health and health research agencies, evidence-based guidelines and positions of leading national health professional organizations, views of physicians practicing in relevant clinical areas, and other relevant factors). EmblemHealth expressly reserves the right to revise these conclusions as clinical information changes, and welcomes further relevant information. Each benefit program defines which services are covered. The conclusion that a particular service or supply is medically necessary does not constitute a representation or warranty that this service or supply is covered and/or paid for by EmblemHealth, as some programs exclude coverage for services or supplies that EmblemHealth considers medically necessary. If there is a discrepancy between this guideline and a member's benefits program, the benefits program will govern. In addition, coverage may be mandated by applicable legal requirements of a state, the Federal Government or the Centers for Medicare & Medicaid Services (CMS) for Medicare and Medicaid members. All coding and web site links are accurate at time of publication. EmblemHealth Services Company LLC, ("EmblemHealth") has adopted the herein policy in providing management, administrative and other services to HIP Health Plan of New York, HIP Insurance Company of New York, Group Health Incorporated and GHI HMO Select, related to health benefit plans offered by these entities. All of the aforementioned entities are affiliated companies under common control of EmblemHealth Inc.

### Definitions

Gene expression	The process of transcribing DNA into messenger RNA (mRNA) and subsequent translation into proteins.
Gene expression profile assay (GEP)	Examines gene patterns in a tissue sample for actively producing mRNA and protein production and simultaneously measures the cellular levels of mRNA of a large number of genes.
Microarray-based gene expression profile (MyPRS)	A proposed method used to evaluate and manage individuals with multiple myeloma by risk stratifying individuals with newly diagnosed and relapsed multiple myeloma to guide treatment decisions. The ability to measure and analyze thousands of genes simultaneously in a single RNA sample; also referred to as gene expression microarray (GEM).
Multiple myeloma	A systemic malignancy characterized by accumulation of antibody secreting plasma cells derived from B cells in the bone marrow, leading to destruction of bone and failure of the bone marrow. Clinical manifestations of the disease include lytic bone lesions, hypercalcemia, anemia, immunodeficiency and renal insufficiency/failure.

### Related Medical Guidelines

[Genetic Counseling and Testing](#)  
[Gene Expression Profiling](#)

### Guideline

Gene expression profile testing for multiple myeloma is considered investigational and not medically necessary for all indications, including:

1. Risk stratification in individuals with newly diagnosed multiple myeloma
2. Determination of prognosis in individuals with relapsed multiple myeloma

## Applicable Procedure Codes

81479	Unlisted molecular pathology procedure
81599	Unlisted multianalyte assay with algorithmic analysis

## References

1. Anguiano A, Tuchman SA, Acharya C, et al. Gene expression profiles of tumor biology provide a novel approach to prognosis and may guide the selection of therapeutic targets in multiple myeloma. *J Clin Oncol*. 2009; 27(25):4197-4203.
2. Broyl A, Hose D, Lokhorst H, et al. Gene expression profiling for molecular classification of multiple myeloma in newly diagnosed patients. *Blood*. 2010; 116(14):2543-2553.
3. Decaux O, Lodé L, Magrangeas F, et al. Prediction of survival in multiple myeloma based on gene expression profiles reveals cell cycle and chromosomal instability signatures in high-risk patients and hyperdiploid signatures in low-risk patients: a study of the Intergroupe Francophone du Myélome. *J Clin Oncol*. 2008; 26(29):4798-4805.
4. Fonseca R, Bergsagel PL, Drach J, et al. International Myeloma Working Group molecular classification of multiple myeloma: spotlight review. *Leukemia*. 2009; 23(12):2210-2221.
5. Mikhael JR, Dingli D, Roy V et al. Management of Newly Diagnosed Symptomatic Multiple Myeloma: Updated Mayo Stratification of Myeloma and Risk-Adapted Therapy (mSMART) Consensus Guidelines 2013. *Mayo Clin Proc* 2013; 88(4):360-76
6. National Comprehensive Cancer Network. Clinical Practice Guidelines in Oncology. Multiple Myeloma V1.2019—Jul.2018. [http://www.nccn.org/professionals/physician\\_gls/PDF/myeloma.pdf](http://www.nccn.org/professionals/physician_gls/PDF/myeloma.pdf). Accessed October 16, 2018.