

## AmeriHealth Caritas Louisiana

National Imaging Associates, Inc.*	
Clinical guidelines MUGA (Multiple Gated Acquisition) Scan	Original Date: September 1997
CPT Codes: 78472, 78473, 78494, +78496	Last Revised Date: March 2020
Guideline Number: NIA_CG_027	Implementation Date: <a href="#">January 2021TBD</a>

### GENERAL INFORMATION:

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. All prior relevant imaging results, and the reason that alternative imaging (gold standard, protocol, contrast, etc.) cannot be performed must be included in the documentation submitted.

[Indications for Multiple Gated Acquisition \(MUGA\) Scan \(Doherty, 2019\)](#)

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[Indications for Multiple Gated Acquisition \(MUGA\) Scan \(Doherty, 2019\)](#)

- To evaluate left ventricular function in a patient with coronary artery disease, valvular heart disease, myocardial disease, or congenital heart disease, in any of the following scenarios:
  - When ventricular function is required for management, and transthoracic echocardiography (TTE) or other imaging has proven inadequate (-Patel, 2013; Yancy, 2013)
  - When there are conflicting results between other testing (i.e. Myocardial Perfusion Imaging and TTE) in the measurement of ejection fraction (EF), and the results of the MUGA will help in the management of the patient

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- ~~Prior TTE has demonstrated systolic dysfunction (EF < 50%) and management will change based on the results of the MUGA scan~~
- ~~For accurate verification of EF after the appropriate time interval following revascularization and/or optimal medical therapy to assess candidacy for an implantable cardioverter defibrillator and/or cardiac resynchronization therapy~~
- In the course of cardiotoxic chemotherapy when TTE images are inadequate to evaluate left ventricular systolic function (Patel, 2013; Plana, 2014; Yancy, 2013; Zamorano, 2016; Yancy 2013):
  - Prior to cardiotoxic chemotherapy, and subsequently for monitoring and follow up. The frequency of testing should be left to the discretion of the ordering physician, but generally no more often than at baseline and every 6 weeks thereafter

**BACKGROUND:**

(Friedman, 2006; Mitra, 2012; Patel, 2013; Ritchie, 1995)

Multiple-gated acquisition (MUGA) scanning uses radio-labelled red blood cells to scan right and left ventricular images in a cine loop format that is synchronized with the electrocardiogram (ECG).

~~TTE is generally preferred for the evaluation of patients before, during, and after cancer therapy.~~

~~A prior MUGA scan is not an indication for repeat to approve another MUGA (if another modality would be suitable, i.e., TTE)~~

~~CMR is recommended when TTE is inadequate and/or candidacy for cardiotoxic chemotherapy based upon LVEF is questionable (Plana 2014). MUGA can also be considered when CMR is not available~~

**Abbreviations**

<del>ECG</del>	<del>Electrocardiogram</del>
EF	Ejection Fraction
MUGA	Multiple Gated Acquisition (nuclear scan of ventricular function)
<del>MPI</del>	<del>Myocardial Perfusion Imaging</del>
TTE	Transthoracic echocardiography

**POLICY HISTORY:**

**Review Date:** July 23, 2019

### Review Summary:

- Removed chart on individual dosing for specific chemotherapeutic agents
- Added indication for when there are conflicting results between other testing (i.e. MPI and TTE) in the measurement of ejection fraction, and the results of the MUGA will help in the management of the patient
- Removed section on Radionuclide Angiography, Combination of Other Studies with MUGA, section on TTE and strain
- Removed CAD indication
- Added indication for cardiotoxicity as follows:
  - In the course of cardiotoxic chemotherapy when TTE images are inadequate to evaluate left ventricular systolic function (Patel 2013, Plana 2014, Yancy 2013, Zamorano 2016):
    - Prior to cardiotoxic chemotherapy, and subsequently for monitoring and follow up. The frequency of testing should be left to the discretion of the ordering physician, but generally no more often than at baseline and every 6 weeks thereafter
    - In patients with EF < 50% on TTE receiving potentially cardiotoxic chemotherapy, more frequent monitoring (every 4 weeks) may be appropriate
    - Removed section on Radionuclide Angiography, Combination of Other Studies with MUGA, section on TTE and strain

**Review Date:** March 2020

### Review Summary:

- ~~Added Introductory statement~~ Added general information section as Introduction which outlines requirements for documentation of pertinent office notes by a licensed clinician, and inclusion of laboratory testing and relevant imaging results for case review
- Added statement to Background regarding prior MUGA scans that a prior MUGA scan is not an indication for repeat MUGA (if another modality would be suitable. i.e. TTE)
- Removed statements from Background on CMR that CMR is recommended when TTE is inadequate and/or candidacy for cardiotoxic chemotherapy based upon LVEF is questionable and that MUGA can also be considered when CMR is not available.

## REFERENCES:

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