



Reporting Of Myocardial Perfusion Imaging Studies

OBJECTIVES AND COMPONENTS OF THE REPORT

The purpose of this document is to specifically identify the critical components involved in effective reporting. This information serves as a standard for all nuclear cardiology laboratories. The critical components which should always be included in the final report are **indications for the procedure, clinical history, procedure, findings, and impressions.**

INDICATIONS FOR THE PROCEDURE

The purpose for the test, or indication, must always be identified and will fall into 1 of 5 general fields: 1) diagnosis of coronary artery disease, 2) delineation of extent and severity of disease, 3) risk stratification, 4) determination of myocardial viability, or 5) assessment of acute chest pain syndromes.

CLINICAL HISTORY

A clinical history should include:

- Demographics (first and last name, age/date of birth, sex, race)
- Description of the symptoms for which the study is being performed
- Referring physician name
- Current medications which may affect performance of the stress test (optional)
- Cardiac history, including prior procedures and imaging studies

PROCEDURE

The following aspects of the stress and imaging procedures should be well documented within the report:

- Type of stress (pharmacologic or exercise)
- Duration of exercise

- Indications for termination of study
- Presence of symptoms during the test (description of chest pain or other exercise induced symptoms)
- Hemodynamic information (resting and peak heart rate and blood pressure, % of maximum predicted heart rate achieved)
- Significant electrocardiographic changes and description of ST segment changes and arrhythmia
- Imaging protocol (protocol used, dose of radiopharmaceuticals [rest and stress], timing of injection [optional], time between injection and imaging [optional])
- Use of gating or attenuation correction

FINDINGS

The following elements should be included:

- Image quality including degree of patient motion, prominent subdiaphragmatic/hepatic activity, prominent soft tissue, and insufficient myocardial activity
- Size of left ventricle (LV) and right ventricle (RV) at rest and stress
- Description of perfusion
 - Size (small, medium, or large)
 - Severity (mild, moderate, or severe)
 - Type (reversible, persistent, or mixed)
 - Location of the defects
 - Presence of single-vessel or multi-vessel disease
 - Quantitative description including summed stress, rest, and difference scores, and percent of LV (optional)
- Evidence of extensive abnormalities, including abnormal lung activity (with thallium-201), transient cavity dilation (including transient ischemic dilation ratio), and abnormal RV size and activity
- Description of left ventricular function with stress and/or rest gated techniques, the severity of wall motion abnormalities, global and focal abnormalities, overall LV systolic function with ejection fraction, and ventricular volumes (optional)
- Presence of significant abnormal extra-cardiac activity



Reporting Of Myocardial Perfusion Imaging Studies *continued*

IMPRESSIONS

The impressions section should include 3 parts:

- 1) Final Impression for both perfusion and function—
“normal/abnormal”
 - Categories of “probably normal”, “equivocal”, and “probably abnormal” should be used as infrequently as possible and should be accompanied by the cause for uncertainty. The term “non-diagnostic” should be used only if the level of stress is inadequate or the images are poor.
- 2) Apparent perfusion abnormalities (with acknowledgment of artifacts) and function information
 - Include correlation with clinical and stress test data, as well as prior imaging studies.
- 3) Reference to initial clinical question

- 4) Signature of the interpreting MD
- 5) Date of the report

SUGGESTED READING

Tilkemeier PL, Cooke CD, Grossman GB, et al. ASNC Imaging Guidelines for Nuclear Cardiology Procedures: Standardized reporting of radionuclide myocardial perfusion and function. *J Nucl Cardiol* 2009;16: doi:10.1007/s12350-009-9095-8.

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