Subject: CT [Computed Tomography] Angiography Heart with 3D Image CCTA [Coronary Computed Tomography Angiography] (75574)	Original Effective Date: 12/13/17
Policy Number: MCR: 647	**Revision Date(s): 12/12/18**
Review Date: 12/13/2017, 12/19/18	

DISCLAIMER

This Molina Clinical Review (MCR) is intended to facilitate the Utilization Management process. It expresses Molina's determination as to whether certain services or supplies are medically necessary, experimental, investigational, or cosmetic for purposes of determining appropriateness of payment. 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 (i.e., will be paid for by Molina) for a particular member. The member's benefit plan determines coverage. Each benefit plan defines which services are covered, which are excluded, and which are subject to dollar caps or other limits. Members and their providers will need to consult the member's benefit plan to determine if there are any exclusion(s) or other benefit limitations applicable to this service or supply. If there is a discrepancy between this policy and a member's plan of benefits, the benefits plan will govern. In addition, coverage may be mandated by applicable legal requirements of a State, the Federal government or CMS for Medicare and Medicaid members. CMS's Coverage Database can be found on the CMS website. The coverage directive(s) and criteria from an existing National Coverage Determination (NCD) or Local Coverage Determination (LCD) will supersede the contents of this Molina Clinical Review (MCR) document and provide the directive for all Medicare members.

DESCRIPTION OF PROCEDURE

Coronary computed tomographic angiography (CCTA) is a noninvasive imaging study that uses intravenously administered contrast material and high-resolution, rapid imaging CT equipment to obtain detailed volumetric images of blood vessels. CTA can image blood vessels throughout the body. However, imaging of the coronary vasculature requires shorter image acquisition times to avoid blurring from the motion of the beating heart. The advanced spatial and temporal resolution features of these CT scanning systems offer a unique method for imaging the coronary arteries and the heart in motion, and for detecting arterial calcification that contributes to coronary artery disease.

APPROVAL SUPPORT

Non-emergent chest pain

- Low pretest probability patients who are not suitable for standard exercise stress testing or stress echocardiography.
- Intermediate pretest probability patients who are not suitable for stress echocardiography.

Further evaluation of patients who have had stress testing

- Low or intermediate probability of underlying coronary artery disease (CAD) in patients who have had indeterminate stress testing.
- Low or intermediate probability of underlying CAD in patients who have had positive stress testing and catheterization is not preferred.

- Patients who have persistent symptoms suggestive of underlying coronary disease who have had negative stress testing.

Evaluation of suspected coronary disease

- For evaluation of suspected underlying coronary disease in patients who have had ventricular tachycardia.
- For evaluation of new onset heart failure in patients with low to intermediate probability of underlying coronary disease.

Other

- For evaluation of patients with suspected coronary anomalies.
- For further evaluation when angiography was indeterminate at defining coronary anatomy.
- Localization of coronary bypass grafts and other retrosternal anatomy prior to chest or cardiac surgery.
- Prior to high risk non-cardiac surgery when catheterization is not possible or preferred.
- For evaluation and monitoring of vascular abnormalities (e.g. Kawasaki's disease, Takayasu's, vasculitis)
- Pre and post-op evaluation of the pulmonary vein for ablation due to chronic atrial fibrillation.

Contraindications

- Body mass index (BMI) over 40
- Inability to get patient's heart rate under 65 despite use of beta blockers
- Patients with uncontrolled atrial fibrillation or other arrhythmia
- Patients with extensive coronary calcifications or a coronary calcium score (Agatston score) greater than 1000.

ADDITIONAL INFORMATION

The above medical necessity recommendations are used to determine the best diagnostic study based on a patient's specific clinical circumstances. The recommendations were developed using evidence based studies and current accepted clinical practices. Medical necessity will be determined using a combination of these recommendations as well as the patient's individual clinical or social circumstances.

- Tests that will not change treatment recommendations should not be approved.
- Tests completed recently need a specific reason for repeat

Pretest Probabilities of CAD

Age (Years)	Gender	Typical/Definite Angina Pectoris	Atypical/Probable Angina Pectoris	Nonanginal Chest Pain	Asymptomatic
<39	Men	Intermediate	Intermediate	Low	Very low
	Women	Intermediate	Very low	Very low	Very low

40–49	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Low	Very low	Very low
50–59	Men	High	Intermediate	Intermediate	Low
	Women	Intermediate	Intermediate	Low	Very low
>60	Men	High	Intermediate	Intermediate	Low
	Women	High	Intermediate	Intermediate	Low

*Very low……..Less than 5% pretest probability of CAD
*Low……..Less than 10% pretest probability of CAD
*Intermediate**…..**Between 10% and 90% pretest probability of CAD

*****Duke Treadmill Score**

The equation for calculating the Duke treadmill score (DTS) is:
DTS = exercise time - (5 * ST deviation) - (4 * exercise angina), with 0 = none, 1 = non-limiting, and 2 = exercise-limiting.
The score typically ranges from -25 to +15. These values correspond to low-risk (with a score greater than or equal to +5), intermediate risk (with scores ranging from - 10 to + 4), and high-risk (with a score less than or equal to -11) categories.

The Duke Score provides an annual mortality estimate: <1% for low risk, 1-3% for intermediate risk, and >3% for high risk.

Determinants of a 4 MET functional capacity:

Examples of activities:

- Less than 4 METs: Slow ballroom dancing, golfing with a cart, playing a musical instrument, and walking at approximately 2 mph to 3 mph
- Greater than 4 METs: Climbing a flight of stairs or walking up a hill, walking on level ground at 4 mph, and performing heavy work around the house

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CPT	Description
75574	CT (Computed Tomography) Angiography Heart with 3D Image
75574	Coronary CT Angiography (CCTA)

REFERENCES USED FOR DETERMINATIONS

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