UPMC Health Plan
POLICY AND PROCEDURE MANUAL

SUBJECT: **Computed Tomography Angiography of the Chest**
INDEX TITLE: **Medical Management**
ORIGINAL DATE: **April 2007**

This policy applies to the following lines of business: (Check those that apply.)

Commercial:				
HMO ( )	POS ( )	PPO ( )		OOA/DOC ( )
Fully Insured ( )	Self-funded/ASO ( )	HSA ( )		All (X)
Medicare Select ( )	Medicare Supplement ( )			
DPW-MA:				
Health Choices ( )	Voluntary ( )			All (X)
CMS-MA:				
OH ( )	WV ( )	PA ( )	All (X)	Other ( )
HMO (X) PPO (X)	Specialty Needs Plan (X)	Part D ( )	PFFS (X)	All ( )
PID-CHIP:				
Free ( )	Sub ( )	Full ( )	All (X)	
APPLICABLE TO:				
Community Care ( )	Work Partners ( )			

I. POLICY

It is the policy of UPMC Health Plan to recognize the use of Computed Tomographic Angiography (CTA) of the Chest as appropriate and consistent with good medical practice when performed for the specific clinical indications listed in this policy. Coverage for this service is based upon medical necessity as detailed in this policy and according to the individual member's specific benefit plan.

II. DEFINITIONS

Computed Tomographic Angiography of the Chest refers to a non-invasive advanced radiological technology used for the imaging of the major vessels of the chest including the coronary arteries, aorta, pulmonary arteries, left subclavian artery, the brachiocephalic artery and the left common carotid artery.

III. PURPOSE

The purpose of this policy is to define the appropriate indications for coverage of the CTA.

IV. SCOPE

This policy applies to various UPMC Health Plan Departments as indicated by the Benefit and Reimbursement Committee. These include but are not limited to: Medical Management, Benefit Configuration and Claims Departments.

V. PROCEDURE

A. Medical Description/Background

The "gold standard" used for diagnosing coronary artery disease (CAD) in symptomatic people has been the invasive procedure coronary angiography also known as cardiac catheterization.

CTA of the chest for cardiac assessment is a noninvasive procedure that is used for acquiring very fast images of the coronary vessels with an image acquisition time less than 20 seconds. For images of coronary vessels- patients are given an intravenous contrast material and are imaged with high resolution- high speed equipment. The data is reconstructed by the CT scanner with 3 dimensional images for better visualization. CTA of the coronary arteries requires at least a 16 slice CT scanner to obtain images of the beating heart; however, 64 slice scanners are preferred to obtain high quality images. To further slow the patient's heart rate to less than 60 beats per minute during the procedure, patients may take beta blockers, especially when undergoing the procedure with the slower 16 slice scanner. Performing multislice computed tomographic angiography (MSCTA) with a 64 slice scanner reduces the scanning time from 20 to 5 seconds. The MSCTA is considered a form of spiral CT and it differs from the Ultrafast CT in that it uses x-ray versus the electron beam to create images. For coronary artery imaging, the resulting images show a high correlation with stenotic lesions normally found in diagnostic cardiac catheterizations and atheromas normally found on intracoronary ultrasound. This technology may also be helpful to define pathology of certain chest or lung lesions.

Additionally, in the instance of emergency evaluation of acute chest pain, it may be necessary to evaluate the patient for both cardiac and noncardiac disease (e.g., pulmonary embolus or aortic dissection). The typical acquisition and post-processing protocols used for pulmonary embolus or aortic dissection will not supply the needed information for exclusion of coronary artery occlusive disease. To obtain this additional information, additional acquisition and post-processing algorithms are used. Therefore, in the emergency evaluation of acute chest pain, when evaluation of the aorta, pulmonary vasculature and coronary circulation is ordered and performed there would be two separate evaluations/reports to support both services.

B. Indications

For cardiac assessment it is indicated for any of the following signs or symptoms:

- Emergency evaluation of acute chest pain
- Cardiac evaluation of a patient with chest pain syndrome (angina) as an alternative to cardiac catheterization
- Management of a symptomatic patient with known coronary artery disease (e.g., post-stent, post coronary artery bypass graft)
- Assessment of coronary or pulmonary anatomy
- Assessment of suspected congenital anomalies of coronary circulation
- Diagnostic evaluation of a patient with current uninterpretable or equivocal stress imaging test results or
- In lieu of routine invasive coronary angiography prior to non-coronary cardiac or aortic surgery in patients at low risk of concomitant coronary disease.

For non-cardiac assessment it is indicated for any of the following signs or symptoms:

- Assessment of a symptomatic patient when presentation is suspicious for pulmonary emboli
- Abnormalities of extra-cardiac vasculature such as aortic dissection, aortic aneurysm, pulmonary arteriovenous malformation and other abnormalities of the systemic circulation
- Assessment of suspected congenital anomalies of the great vessels or assessment of mediastinal or lung parenchymal lesions, the vascularity of which is unknown or ill defined, but is critical to the diagnosis.

C. Limitations

- CTA is not covered for screening or asymptomatic patients.
- The selection of CTA must be made within the context of other testing modalities so that the resulting information facilitates the management decision, not merely adds a new layer of testing.
- Coverage of CTA for coronary artery assessment is limited to devices that process thin, high resolution slices (1 mm or less). The MSCTA scanner must have at least 16 slices per second capability, although 64 slices are preferable. For non-cardiac assessment, the MSCTA scanner may have a capability of less than 16 slices per second.
- The administration of beta-blockers and the monitoring of the patient by a cardiologist during the MSCTA are not separately payable services.
- The electron beam computer tomography (EBCT) technology is not addressed in this policy.

D. Variations

N/A

E. Quality Audit

Quality Audit may monitor policy compliance or billing accuracy at the request of the UPMC Health Plan's Technology Assessment Committee or the Benefits Reimbursement Committee.

F. Records Retention

Records Retention for UPMC Health Plan documents, regardless of medium are provided within the UPMC Health System Policy and as indicated in the UPMC Insurance Services Division Policy and Procedure.

G. References

1. Centers for Medicare and Medicaid Services LCD L27483, *Computed Tomographic Angiography of the Chest*, 01/14/2010
2. Centers for Medicare and Medicaid Services, Decision Memo for *Computed Tomographic Angiography* (CAG-00385N), 03/12/2008
3. ECRI Institute Health Technology Forecast, *Multislice Computed Tomography Angiography (MSCTA) to Detect Coronary Artery Disease,* August7, *2007*
4. BlueCross BlueShield of North Carolina, Medical Policy RAD5050, *Electron Beam Computed Tomography for Imaging of Coronary Artery Disease,* 03/2006
5. The Regence Group, Radiology Section, *Computed Tomography for Pulmonary Indications, 04/01/2008*
6. Aetna, Policy # 0228, *Cardiac CT, Coronary CT Angiography and Calcium Scoring* ,12/23/2008
7. The Regence Group, Policy # 46, *Contrast Enhanced Computed Tomographic Angiography (CTA) for Coronary Artery Evaluation,* 12/01/2008
8. Cigna HealthCare, Coverage Position 0399, *Computed Tomography Angiography (CTA),* 9/15/2008
9. Highmark Medical Policy Bulletin, Policy # X-54, *Computed Tomographic Angiography (CTA) for Cardiac and Coronary Artery Evaluation,* 03/10/2008
10. Excellus Health Plan, Inc, Policy # 6.01.34, *Cardiac Computed Tomographic Angiography (Cardiac CTA): Contrast Enhanced*, 10/16/2008
11. Journal of the American College of Cardiology, *Diagnostic Accuracy of Coronary In-Stent Restenosis Using 64-Slice Computed Tomography*, 02/16/2007
12. ACCF/AHA 2007 Clinical Expert Consensus Document on *Coronary Artery Calcium Scoring By Computed Tomography in Global Cardiovascular Risk Assessment and in Evaluation of Patients with Chest Pain*, Journal of the American College of Cardiology, Vol. 49, No. 3.2007
13. Blue Cross of California, Guideline CG-RAD-09 - *CTA/MRA of the Thorax, Abdomen and Extremities*, 03/08/07

Disclaimer:

UPMC Health Plan medical payment and prior authorization policies do not constitute medical advice and are not intended to govern or otherwise influence the practice of medicine. The policies constitute only the reimbursement and coverage guidelines of UPMC Health Plan and its affiliated managed care entities. Coverage for services varies for individual members in accordance with the terms and conditions of applicable Certificates of Coverage, Summary Plan Descriptions, or contracts with governing regulatory agencies.

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