New Century Health

Cardio Policy:

Percutaneous Coronary Interventions

POLICY NUMBER UM CARDIO_1094	**SUBJECT** Percutaneous Coronary Interventions		**DEPT/PROGRAM** UM Dept	**PAGE 1 OF 6**
DATES COMMITTEE REVIEWED 04/06/11, 11/07/12, 08/22/13, 06/31/14, 05/15/15, 08/12/15, 05/24/16, 11/23/16, 12/21/16, 10/31/17, 02/20/19, 07/30/19, 12/11/19, 08/12/20, 06/09/21, 08/11/21, 09/08/21, 10/12/22	**APPROVAL DATE** October 12, 2022	**EFFECTIVE DATE** October 28, 2022	**COMMITTEE APPROVAL DATES** 04/06/11, 11/07/12, 08/22/13, 06/31/14, 05/15/15, 08/12/15, 05/24/16, 11/23/16, 12/21/16, 10/31/17, 02/20/19, 07/30/19, 12/11/19, 08/12/20, 06/09/21, 08/11/21, 09/08/21, 10/12/22	
PRIMARY BUSINESS OWNER: UM		**COMMITTEE/BOARD APPROVAL** Utilization Management Committee		
URAC STANDARDS HUM v8: UM 1-2; UM 2-1	**NCQA STANDARDS** UM 2		**ADDITIONAL AREAS OF IMPACT**	
CMS REQUIREMENTS	**STATE/FEDERAL REQUIREMENTS**		**APPLICABLE LINES OF BUSINESS** Commercial, Exchange, Medicaid	

I. PURPOSE

Indications for determining medical necessity for the procedure of Percutaneous Coronary Intervention (PCI).

II. DEFINITIONS

Percutaneous Transluminal Coronary Angioplasty (PTCA) is a procedure used to open clogged heart arteries. Angioplasty involves temporarily inserting and blowing up a tiny balloon where the artery is clogged to help widen the artery.

Percutaneous Coronary Intervention (PCI) with Stent: Angioplasty is often combined with the permanent placement of a stent, a small wire mesh tube, to help prop the artery open and decrease the chance of it narrowing again. Some stents are coated with medication to help keep the artery open (drug-eluting stents), while others are not (bare-metal stents).

A decision for PCI is made based on the findings on diagnostic cardiac catheterization. The target vessel except left main, must have hemodynamically and angiographically significant lesion (≥ 70%) in one or more than one vessel. Intermediate coronary lesions are defined as lesions with 50-60% stenosis on cardiac angiography. This may require further workup with Fractional Flow Reserve (FFR) or IVUS depending on patient's symptomatology and nuclear stress test findings. Hemodynamically significant left main stenosis is angiographically defined as having ≥50% stenosis.

A single vessel CAD may have single or multiple lesions/stenosis in native coronary artery or single bypass graft. A 2 vessel CAD may have single or multiple lesions/stenosis in 2 different native coronary vessels or in combination with bypass graft(s). Similarly, 3 vessel CAD may have single or multiple lesions/stenosis in 3 different native coronary vessels/arteries or a combination of native coronary arteries with bypass graft(s).

A. High-Risk findings on Stress Test (>3% annual mortality rate) includes:

1. Severe resting or exercise left ventricular dysfunction (LVED < 35%)
2. High-risk treadmill score (score ≤ 11)
3. Stress induced large perfusion defect (particularly if anterior)
4. Stress induced multiple perfusion defects of moderate size
5. Large, fixed perfusion defect with LV dilation or increased lung uptake (thallium-201)
6. Stress induced moderate perfusion defect with LV dilation or increased lung uptake (thallium-201)
7. Echocardiographic wall motion abnormality (involving 2 segments) developing at low dose of Dobutamine (≤10 mg/kg/min) or at a low heart rate (<120 beats/min).
8. Stress echocardiographic evidence of extensive ischemia

B. Intermediate-Risk findings on Stress Test (1% to 3% annual mortality rate)

1. Mild/moderate resting left ventricular dysfunction (LVEF 35% to 49%)
2. Intermediate-risk treadmill score (score between -11 and -5)
3. Stress induced moderate perfusion defect without LV dilation or increased lung intake (thallium-201)
4. Limited stress echocardiographic ischemia with a wall motion abnormality only at higher doses of Dobutamine involving ≤ 2 segments

C. Low-Risk findings on Stress Test (<1% annual mortality rate)

1. Low-risk treadmill score (Duke score 5)
2. Normal or small myocardial perfusion defect at rest or with stress
3. Normal stress echocardiographic wall motion or no change of limited resting wall motion abnormalities during stress.

Grading of Angina Pectoris by the Canadian Cardiovascular Society Classification System:

Class I: Ordinary physical activity does not cause angina, such as walking, climbing stairs. Angina occurs with strenuous, rapid, or prolonged exertion at work or recreation.

Class II: Slight limitation of ordinary activity. Angina occurs on walking more than 2 blocks on the level and climbing more than 1 flight of ordinary stairs at a normal pace and in normal condition.

Class III: Marked limitations of ordinary physical activity. Angina occurs on walking 1 or 2 blocks on the level and climbing 1 flight of stairs in normal conditions and at a normal pace.

Class IV: Inability to carry on any physical activity without discomfort. Angina symptoms may be present at rest.

An appropriate diagnostic or therapeutic procedure is one in which the expected clinical benefit exceeds the risks or negative consequences of the procedure by a sufficiently wide margin such that the procedure is generally considered acceptable or reasonable care. The ultimate objective of AUC

is to improve patient care and health outcomes in a cost–effective manner but is not intended to ignore ambiguity and nuance intrinsic to clinical decision making.

Appropriate Care – Median Score 7-9

May be Appropriate Care – Median Score 4-6

Rarely Appropriate Care – Median Score 1-3

III. POLICY

Indications for determining medical necessity are:

A. Patients without prior bypass grafts

1. Patients should have objective evidence of myocardial ischemia due to lesions amenable to transluminal intervention and/or has not responded to guideline directed medical treatment. **(AUC Score 8)**[1,2,3]
2. Patients with Angina Class III or IV and/or evidence of intermediate to high-risk findings on noninvasive testing and on guideline directed medical therapy with 2 vessels CAD with LAD stenosis. **(AUC Score 7)**[1,2,3]
3. Patients with Angina Class III or IV and/or evidence of intermediate to high-risk findings on noninvasive testing and on guideline directed medical therapy with 3 vessels CAD with focal stenosis and low SYNTAX score. **(AUC Score 7)**[1,2,3]
4. Patients with Angina Class III or IV and/or evidence of intermediate to high-risk findings on noninvasive testing and on guideline directed medical therapy and with isolated left main stenosis. **(AUC Score 6)**[1,2,3]
5. Patients with Angina Class III or IV with one or 2 vessel CAD without involvement of proximal LAD on guideline directed medical therapy and with evidence of high-risk findings on noninvasive testing. **(AUC Score 9)**[1,2,3]
6. Patients with Angina Class III or IV with one or 2 vessel CAD without involvement of proximal LAD on guideline directed medical therapy and with no prior non-invasive testing. **(AUC Score 7)**[1,2,3]
7. Patients with Angina Class III or IV with one or 2 vessel CAD with borderline stenosis of 50-60% but with FFR ≤ 0.80 and/or IVUS with significant reduction of cross sectional area of coronary lumen. **(AUC Score 7)**[1,2,3]
8. Patients with Angina Class III or IV with Chronic Total Occlusion (CTO) of 1 major coronary artery, on guideline directed medical therapy and with evidence of intermediate **(AUC Score 7)**[1,2,3] or high-risk **(AUC Score 8)**[1,2,3] findings on noninvasive testing.
9. Patients with Angina Class III or IV with one vessel CAD involving proximal LAD, on guideline directed medical therapy and with evidence of low **(AUC Score 8)**[1,2,3] or intermediate **(AUC Score 9)**[1,2,3] or high **(AUC Score 9)**[1,2,3] risk findings on noninvasive testing.
10. Patients with Angina Class I or II with one vessel CAD involving proximal LAD, on guideline directed medical therapy and with evidence of low **(AUC Score 7)**[1,2,3] or intermediate **(AUC Score 8)**[1,2,3] or high **(AUC Score 9)**[1,2,3] risk findings on noninvasive testing.
11. Asymptomatic Patients with one or 2 vessel CAD without involvement of proximal LAD on guideline directed medical therapy and with evidence of high-risk findings on noninvasive testing. **(AUC Score 7)**[1,2,3]
12. Patients with Angina Class I or II with one or 2 vessel CAD without involvement of proximal LAD on guideline directed medical therapy and with evidence of high-risk findings on noninvasive testing. **(AUC Score 8)**[1,2,3]

13. Asymptomatic patients with 3 vessel CAD with no left main involvement, on guideline directed medical therapy and with evidence of intermediate **(AUC Score 7)**[1,2,3] or high **(AUC Score 8)**[1,2,3] risk findings on noninvasive testing.
14. Patients with Angina Class I or II with 3 vessel CAD with no left main involvement, on guideline directed medical therapy and with evidence of intermediate **(AUC Score 8)**[1,2,3] or high-risk findings **(AUC Score 9)**[1,2,3] on noninvasive testing.
15. Patients with Angina Class III or IV with 3 vessel CAD with no left main involvement, on guideline directed medical therapy and with evidence of intermediate **(AUC Score 9)**[1,2,3] or high-risk findings **(AUC Score 9)**[1,2,3] on noninvasive testing.
16. Asymptomatic patients with 3 vessel CAD with no left main involvement with abnormal LV systolic function. **(AUC Score 8)**[1,2,3]
17. Asymptomatic patients with 3 vessel CAD with no left main involvement and with abnormal LV systolic function. **(AUC Score 8)**[1,2,3]
18. Patients with Angina Class I or II with 3 vessel CAD with no left main involvement and with abnormal LV systolic function. **(AUC Score 9)**[1,2,3]
19. Patients with Angina Class III or IV with 3 vessel CAD with no left main involvement and with abnormal LV systolic function. **(AUC Score 9)**[1,2,3]
20. Asymptomatic or symptomatic patients with left main stenosis. **(AUC Score9)**[1,2,3]
21. Symptomatic patient with Angina Class II-IV with intermediate or high-risk findings on noninvasive testing on guideline directed medical therapy and hemodynamically/angiographically significant stenosis in one or more native coronary artery. **(AUC Score 8)**[1,2,3]
22. Asymptomatic patient with intermediate or high-risk findings on noninvasive testing, on guideline directed medical therapy and hemodynamically/angiographically significant stenosis in one or more native coronary artery. **(AUC Score 7)**[1,2,3]

B. Patients with prior bypass grafts

1. Asymptomatic patients on guideline directed medical therapy with one or more stenosis in bypass graft and with high-risk **(AUC Score 7)**[1,2,3] findings on noninvasive testing.
2. Patients with Angina Class I or II on guideline directed medical therapy with one or more stenosis in bypass graft and with low **(AUC Score 6)**[1,2,3], intermediate **(AUC Score 7)**[1,2,3] or high-risk **(AUC Score 8)**[1,2,3] findings on noninvasive testing.
3. Patients with Angina Class I or II on guideline directed medical therapy with patent bypass grafts but with one or more stenosis in native coronary arteries without bypass graft and have intermediate **(AUC Score 6)**[1,2,3] or high-risk **(AUC Score 8)**[1,2,3] findings on noninvasive testing.
4. Patients with Angina Class III or IV on guideline directed medical therapy with one or more stenosis in bypass graft and with low **(AUC Score 7)**[1,2,3], intermediate **(AUC Score 8)**[1,2,3] or high-risk **(AUC Score)**[1,2,3] findings on noninvasive testing.
5. Patients with Angina Class III or IV on guideline directed medical therapy with patent bypass grafts, but with one or more stenosis in native coronary arteries without bypass graft and have low **(AUC Score 7)**[1,2,3], intermediate **(AUC Score 8)**[1,2,3] or high-risk **(AUC Score 9)**[1,2,3] findings on noninvasive testing.
6. Symptomatic patient with Angina Class II-IV with intermediate or high-risk findings on noninvasive testing on guideline directed medical therapy and having hemodynamically/angiographically significant stenosis of one or more native coronary artery and/or bypass graft(s). **(AUC Score 8)**[1,2,3]

7. Asymptomatic patient with one or more failed bypass graft(s) not amenable for intervention, having intermediate or high-risk findings on noninvasive testing on guideline directed medical therapy and hemodynamically/angiographically significant stenosis in one or more native coronary artery that is amenable for percutaneous intervention. **(AUC Score 7)**[1,2,3]

C. Limitations

A. Avoid intervention in hemodynamically stable patients with:
   1. Significant (≥ 60%) stenosis of an unprotected left main coronary artery upstream from an acute occlusion in the left coronary system that might be disrupted by the angioplasty catheter.
   2. Extremely long or angulated infarct-related lesions with Thrombolysis in Myocardial Infarction (TIMI) grade 3 flow.
   3. Infarct-related lesions with TIMI grade 3 flow in stable patients with 3 vessel disease.
   4. Infarct-related lesions of small or secondary vessels.

B. Requests for services that are part of a surveillance protocol for patients who are involved in a clinical trial are considered out of scope (OOS) for New Century Health and cannot be reviewed.

IV. PROCEDURE

A. To review a request for medical necessity, the following documents must be submitted for review
   1. Cardiologist note that prompted request
   2. Cardiac catheterization that supports PCI request

B. Primary codes appropriate for this service: PCI with Stent – 92928, 92929, PTCA – 92920, 92921 PCI of CTO – 92943, 92944 PCI with Atherectomy with Stent – 92933, 92934, PCI of Bypass Graft with Stent/PTA/Atherectomy – 92937, 92938. Atherectomy when performed with angioplasty on single vessel/branch- 92924, Atherectomy when performed with angioplasty on any additional vessel/branch- 92925

V. APPROVAL AUTHORITY

A. Review – Utilization Management Department

B. Final Approval – Utilization Management Committee

VI. ATTACHMENTS

A. None

VII. REFERENCES

1. David J. Maron, M.D., et al. Initial Invasive or Conservative Strategy for Stable Coronary Disease. N Engl J Med 2020; 382:1395-1407
2. Manesh R. Patel et al. ACC/AATS/AHA/ASE/ASNC/SCAI/SCCT/STS 2017 Appropriate Use Criteria for Coronary Revascularization in Patients With Stable Ischemic Heart Disease. A Report of the American College of Cardiology Appropriate Use Criteria Task Force, American Association for Thoracic Surgery, American Heart Association, American Society of Echocardiography, American Society of Nuclear Cardiology, Society for Cardiovascular Angiography and Interventions, Society of Cardiovascular Computed Tomography, and Society of Thoracic Surgeons. Journal of Nuclear Cardiology, Oct 2017, Volume 24, Issue 5, pp 1759-1792.

3. Robert C. Hendel MD, FACC, FAHA, et al. Appropriate use of cardiovascular technology: 2013 ACCF appropriate use criteria methodology update: a report of the American College of Cardiology Foundation appropriate use criteria task force. Journal of the American College of Cardiology. March 2013, Volume 61, Issue 12, Pages 1305-1317.
4. NCQA UM 2022 Standards and Elements.