Cardio Policy:

Arterial PVR and Stress Arterial PVR

POLICY NUMBER UM CARDIO_1077	**SUBJECT** Arterial Pulse Volume Recording (PVR) and Stress Arterial PVR		**DEPT/PROGRAM** UM Dept	**PAGE 1 OF 5**
DATES COMMITTEE REVIEWED 04/01/11, 11/07/12, 03/10/14, 06/16/14, 08/12/15, 11/23/16, 12/21/16, 10/10/17, 03/07/18, 02/13/19, 02/21/19, 04/23/19, 12/11/19, 05/13/20, 02/10/21, 03/10/21, 08/11/21, 07/13/22, 01/11/23, 02/01/23, 05/10/23, 12/20/23	**APPROVAL DATE** December 20, 2023	**EFFECTIVE DATE** December 22, 2023	**COMMITTEE APPROVAL DATES** 04/01/11, 11/07/12, 03/10/14, 06/16/14, 08/12/15, 11/23/16, 12/21/16, 10/10/17, 03/07/18, 02/13/19, 02/21/19, 04/23/19, 12/11/19, 05/13/20, 02/10/21, 03/10/21, 08/11/21, 07/13/22, 01/11/23, 02/01/23, 05/10/23, 12/20/23	
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 Arterial Pulse Volume Recording (PVR) and Stress Arterial PVR.

II. DEFINITIONS

A Pulse volume recording is a non-invasive test that measures the blood volume changes that occur in the legs. During this test, a blood pressure cuff is placed on the arm and multiple cuffs are placed on the legs. The cuffs are inflated slightly while the patient is lying down. As blood pulse s through the arteries, the blood vessels expand, causing an increase or decrease in the volume of air within the cuff. A recording device displays these pulse volume changes as a waveform on a monitor. Blood pressures are measured for the purpose of localizing the area of blockage in the extremities.

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

Guideline directed medical therapy (GDMT) are outlined by joint American College of Cardiology (ACC)/American Heart Association (AHA) in cardiovascular clinical practice guidelines as Class I

recommendation. These are maximally tolerated medications for a cardiovascular condition, when prescribed, have shown to improve healthcare outcomes such as survival along with significant reduction in the major adverse cardiovascular events and hospitalization. For all recommended drug treatment regimens, the prescriber should confirm the dosage with product insert material and carefully evaluate for contraindications and interactions. [6,7,8,9,10,11,12]

III. POLICY

Indications for approving a request for medical necessity are:

A. Arterial PVR

1. Patient with claudication with Ankle –Brachial Index (ABI) greater than or equal to 1.3 and no prior PVR done within the last 12 months. **(AUC Score 7)[1,2,3,4,5]**
2. Patient with DM-2 presenting with claudication and absence of or diminished femoral-popliteal pulses or clinical presentation suggestive of chronic limb ischemia and no prior PVR done within the last 12 months. **(AUC Score 9)[1,2,3,4,5]**
3. Patient with rest pain associated with absent leg pulses and no prior PVR done within the last 12 months. **(AUC Score 9)[1,2,3,4,5]**
4. Patient with claudication with Ankle–Brachial Index (ABI) less than or equal to 0.9 no prior PVR done within the last 12 months. **(AUC Score 9)[1,2,3,4,5]**
5. Patient with no prior diagnosis of PAD but has decreased and/or absence of infra popliteal pulses and/or presence of ulcer(s)/infection in lower extremity. **(AUC Score 9)[1,2,3,4,5]**
6. Patient with PAD on maximally tolerated GDMT and with/ or without prior lower extremity Percutaneous or Surgical Intervention, now presenting with a new or worsening lifestyle-limiting claudication despite being on pharmacological therapy and no prior PVR done since the onset of new signs and symptoms. **(AUC Score 9)[1,2,3,4,5,6,7,8,9,10,11,12]**
7. Asymptomatic patients on maximally tolerated GDMT with prior lower extremity Percutaneous or Surgical Intervention who did not have a postintervention baseline vascular surveillance testing done. **(AUC Score 7)[1,2,3,4,5,6,7,8,9,10,11,12]**
8. An initial surveillance PVR in asymptomatic on maximally tolerated GDMT patients after lower extremity Percutaneous or Surgical intervention can be done preferably within 6 weeks post intervention.as a baseline. **(AUC Score 8)[1,2,3,4,5,6,7,8,9,10,11,12]**
9. Surveillance PVR in asymptomatic patients on maximally tolerated GDMT after lower extremity surgical intervention can be done at 6 months after baseline study. **(AUC Score 7)[1,2,3,4,5,6,7,8,9,10,11,12]**
10. Surveillance PVR in asymptomatic patients on maximally tolerated GDMT after lower extremity Percutaneous or Surgical Intervention is appropriate annually, after the baseline study. **(AUC Score 7)[1,2,3,4,5,6,7,8,9,10,11,12]**
11. Evaluation of upper extremity with PVR is appropriate in presence of claudication, ulcer, suspected thoracic outlet syndrome, trauma, pre-op radial artery harvest for CABG, presence of pulsatile mass or evidence of ischemia or bruit after vascular access with no prior PVR done within the last 12 months. **(AUC Score 8)[1,2,3,4,5]**
12. Evaluation of a patient who has undergone upper extremity Percutaneous or Surgical Intervention, presenting with new or worsening lifestyle-limiting claudication despite being on pharmacological therapy with no PVR done since onset of symptoms. **(AUC Score 8)[1,2,3,4,5]**
13. An initial surveillance PVR of upper extremity PAD after revascularization can be done preferably within 6 weeks post intervention as a baseline. **(AUC Score 8)[1,2,3,4,5]**

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14. Surveillance PVR in asymptomatic patients after upper extremity surgical intervention can be done at 6 months following baseline study post intervention. **(AUC Score 7)**[1,2,3,4,5]
15. Surveillance PVR in asymptomatic patients after upper extremity Percutaneous or Surgical intervention can be done annually for 3 years provided there is no change in clinical status, after baseline study post intervention. **(AUC Score 7)**[1,2,3,4,5]

B. Stress Arterial PVR

1. Patients with leg pain and/or claudication with border line abnormal ABI (between 0.91-0.99). **(AUC Score 7)**[1,2,3,4,5]
2. Patients with a resting ABI that is within normal limits, however they continue to describe ambulatory symptoms that are typical for claudication or have physical characteristics that suggest peripheral arterial insufficiency. **(AUC Score 7)**[1,2,3,4,5]

Limitations:

A. Continuous burning of the feet is considered to be a neurologic and not a vascular symptom.

B. Edema rarely occurs with arterial occlusive disease. The absence of pulses is not an indication to proceed beyond the physical examination unless it is related to other signs and/or symptoms.

C. Arterial PVR is not to be utilized to follow non-invasive medical treatment regimens.

D. Stress arterial PVR is not appropriate once an abnormal resting ABI study or a prior abnormal stress arterial PVR study has been obtained.

E. It is preferred that the use of non-invasive physiologic and imaging studies for post catheter-based or surgical intervention surveillance as per #8-10 and #13-15 above is limited to one modality i.e., either ABI or PVR or duplex ultrasound. It is also preferred that utilization of that chosen modality be consistent throughout the surveillance period. Additional modalities may be utilized only if clinical or symptomatic changes are documented.

F. The use of non-invasive physiologic and imaging studies for screening, or initial workup is limited to one modality i.e., either ABI or PVR or duplex ultrasound.

G. 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.

H. Before an arterial PVR and Stress Arterial PVR test can be requested for a patient, following must be considered: Predicted or observed lack of adequate response to maximally tolerated GDMT[6,7,8,9,10,11,12]

IV. PROCEDURE

A. To review a request for medical necessity, the following items must be submitted for review:
   1. Progress note that prompted request,
   2. All previous vascular studies performed,
   3. Progress notes from Vascular Surgeon (if seen previously by a surgeon)

B. Primary codes appropriate for this service

   93923 (Rest)

   93924 (Stress)

V. APPROVAL AUTHORITY

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A. Review – Utilization Management Department

B. Final Approval – Utilization Management Committee

VI. ATTACHMENTS

A. None

VII. REFERENCES

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